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FARM-RETAIL SPREADS FOR FOOD PRODUCTS

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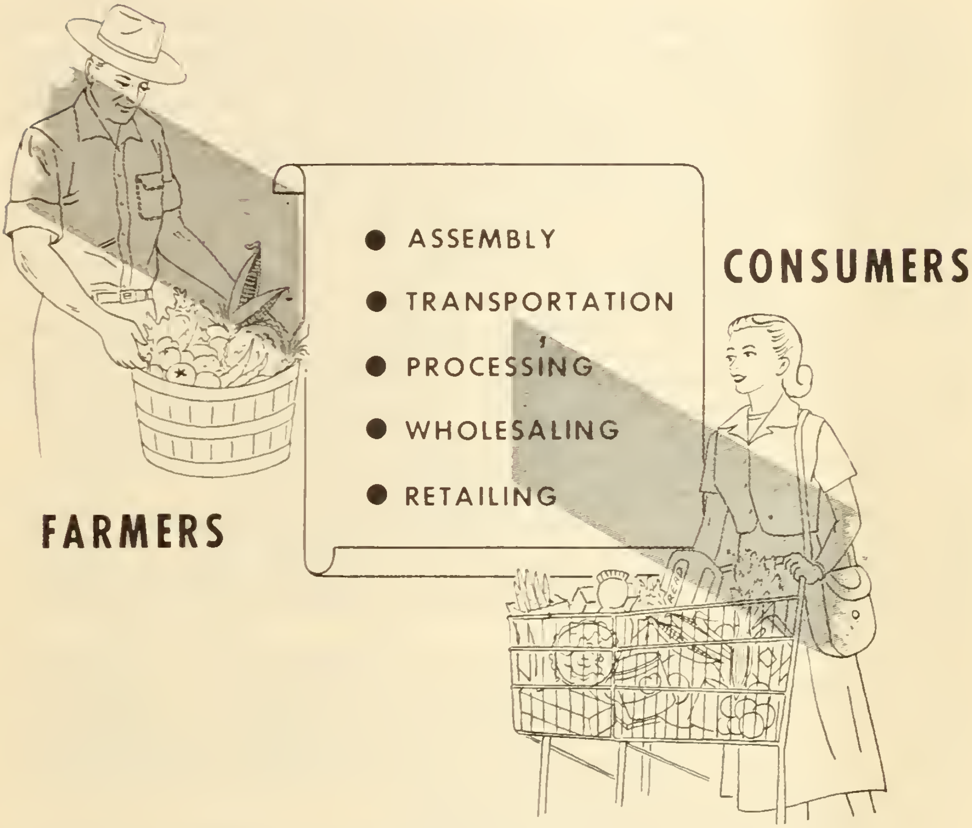
UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Research Division
Miscellaneous Publication No. 741

FARM-RETAIL SPREADS FOR FOOD PRODUCTS

COSTS, PRICES...



UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Research Division
Miscellaneous Publication No. 741

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PREFACE

Agricultural policy considerations by various economic and legislative groups have long stimulated a keen interest in price spreads between the farmer and the consumer. The informational needs of these groups have centered on the measurement of these spreads and the relation of changes in spreads to changes in the production and marketing of farm products.

The Department of Agriculture in March 1935 issued a preliminary report, "The Margin Between Farm Prices and Retail Prices of Ten Foods," which summarized for the period 1910–34 price spreads for 10 of the most important farm products. This research was expanded to include 58 food items in a 1936 report, "Price Spread Between the Farmer and the Consumer." Beginning with 1941, farm-retail price spreads for food products have been published on a continuing basis by the Department in "The Marketing and Transportation Situation" and other reports. Passage of the Research and Marketing Act of 1946, Public Law 733, gave added emphasis to marketing research, including measurement and analysis of marketing margins and costs. In the 1956 and 1957 fiscal year appropriations, Congress earmarked funds for special margins studies.

This publication provides a central reference on price spreads and related data on marketing farm food products. It should be a useful research tool and a source of information for those who frequently need to explain changes in farm-to-consumer price spreads. This publication brings together statistics and analyses from other publications and unpublished manuscripts. A selected annotated bibliography refers the reader to other references.

This publication contains statistics for a "market basket" of farm food products, commodity groups, and 47 individual food products on an annual basis for the full period for which statistics are available. Monthly and quarterly data are given for the total market basket. For some commodity groups and individual food products, quarterly data beginning with 1947 are given; quarterly data for others are available on request to the Marketing Information Division, AMS.

The statistics in this publication supersede those published in earlier market basket series including Miscellaneous Publication 576. Current comparable data, and also revised data, will be published quarterly in "The Marketing and Transportation Situation," beginning with the fourth issue in 1957, MTS-127.

Analyses of factors affecting trends in farm-retail spreads are included. Changes in services and factor costs in marketing farm food products are considered. Estimates of total charges for marketing farm food products and for major commodity groups are given in the marketing-bill series. Functional and cost components of the marketing bill are given in some instances.

The methodology and sources of data for estimating the market-basket statistics and other series are discussed. More detailed information on methodology is available on request.

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This publication supersedes M. P. 576,
"Price spreads between Farmers and Consumers
for Food Products."

Kenneth E. Ogren, Head of the Marketing Information and Statistics Section, Market Organization and Costs Branch, directed the planning and preparation of this report. Forrest E. Scott, Kathryn Parr, and Harold Rabinowitz, agricultural economists, prepared the text material for product groups and assisted in the general preparation. Emma Diehl, statistical assistant, supervised the statistical unit that computed the statistics for the report. Many others in the Market Organization and Costs Branch gave valuable assistance; data were obtained from price spread reports prepared in the Branch in the last several years. The names of those who compiled the annotated bibliography are given on page 139.

FARM-RETAIL SPREADS FOR FOOD PRODUCTS

Costs, Prices . . .

Introduction

What is a Farm-Retail Spread? — A farm-retail spread is the difference between the retail price of a product and its farm value — the payment (adjusted for byproduct values) to farmers for an equivalent quantity of farm products. This difference also is often called the "marketing margin" or the "marketing charge." In this context, the spread (or margin) includes the payments received (or charges made) by all agencies performing services in moving agricultural products from farmers to consumers. These services include local assembly of farm products, processing, storage, transportation, wholesaling, and retailing.

The terms "spread" and "margin" frequently are used when speaking of components of the farm-retail spread. For example, the difference between the retail price and the cost to the retailer of the quantity he must buy to sell a unit of a product often is called the retailer's margin or spread.

Computation of the farm-retail spread provides the statistics for estimating the "farmer's share." This statistic is an estimate of the share the farmer receives of the dollar the consumer spends for a product, or the percentage the farm value of a product is of its retail price.

Method of Calculating Farm-Retail Spread. — To calculate a farm-retail price spread, we must first have figures for the retail price and farm value. Average food prices published by the Bureau of Labor Statistics serve as the retail prices. But generally we cannot obtain a valid farm-retail spread by subtracting a published farm price from the retail price. Usually, to sell a unit of a product to consumers, marketing agencies must buy a larger quantity of the farm product. For example, a 1,000-pound steer yields only about 465 pounds of Choice grade cuts for sale to consumers. Inedible portions of many farm products are removed in processing and, in the case of beef and certain other products, some edible byproducts are separated from the main product. For fresh fruits and vegetables, shrinkage in weight or volume and losses through spoilage mean that a smaller quantity of the produce is available for sale at retail than was sold by the farmer.

To calculate the farm value, then, we must first estimate what quantity of the farm product is equivalent to a unit of the product for which the retail price is quoted. This is called the "farm product equivalent."

The farm-product equivalent (measured in the unit for which the farm price is quoted) multiplied by the farm price per unit is the farm value, except when a byproduct is obtained in processing. We must estimate the portion of the value of the farm product that is derived from the byproducts and deduct it from the payment received by the farmer for the equivalent farm product.

Retail and Farm Prices. — Retail prices published by BLS are estimates of average prices paid in retail food stores in urban areas in the United States and are based on prices collected in 46 cities and towns during the first 3 days of the week which includes the 15th of the month.

Most of the farm prices used in calculating farm values are estimates of average prices received by farmers in their local market areas on or near the 15th of the month. These prices are published monthly by AMS.

Part I

THE MARKET BASKET

Description of Series. — Agricultural Marketing Service currently computes price-spread statistics for 60 farm food products. These statistics are based on comparisons of retail-store prices paid by urban consumers with payments received by farmers for equivalent quantities of products. The retail cost and farm value for a family market basket of food products are computed by multiplying the retail price and "equivalent" farm value of each of the 60 foods by quantity weights. These weights are based on the estimated quantities of farm food products bought for consumption at home by urban wage-earner and clerical-worker families in 1952.[1] The farm-retail spread is the difference between the retail cost and the farm value of the market basket; the farmer's share, the percentage that the farm value is of the retail cost (table 1).

The market basket series present index-number measurements computed by a fixed weight aggregative formula, although the statistics are published in the form of value aggregates so that dollar changes in the retail cost of the market basket can be related to dollar changes in the farm value and the farm-retail spread. Longer time series are published in the form of index numbers (table 48, p. 100).[2]

TABLE 1.—*The market basket of farm foods: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–56* [1]

Year	Retail cost [2]	Farm value [3]	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	911	467	444	51
1948	982	497	485	51
1949	928	435	493	47
1950	920	432	488	47
1951	1,024	497	527	49
1952	1,034	482	552	47
1953	1,003	445	558	44
1954	986	421	565	43
1955	969	395	574	41
1956	972	390	582	40

[1] Data by months are given in table 47, p. 98. Index numbers, 1913–56, are given in table 48, p. 100.

[2] Retail cost of average quantities of farm foods purchased per urban wage-earner and clerical-worker family in 1952, calculated from retail prices collected by BLS.

[3] Payment to farmers for equivalent quantities of farm produce minus imputed farm value of byproducts obtained in processing.

These series, or indexes, are concerned with measuring changes in farm and retail prices and farm-retail spreads, not with the effects of changes in services and types and quantities of food bought. The farm-retail spread measures the trend in charges made by processing and distribution agencies for the "quantity" of services associated with the fixed quantities of food products in the family market basket bought in retail food stores — that is, all the services involved in moving products from the farmer to the consumer. In short-term comparisons, the quantity of services measured by the market-basket series may remain nearly constant. But it should be noted that over a longer period of time the trend in the farm-retail spread likely reflects some of the effects of changes in services provided. For example, changes in marketing services that may affect quality of foods such as washing or prepackaging of fresh produce often are not reflected in specifications used by the Bureau of Labor Statistics in collecting retail-store prices.[3] Other changes may result from shifts in marketing channels used by farmers with farmers providing more or fewer marketing services than formerly.

TRENDS, 1913–56

The major up-and-down movements since 1913 in the three market-basket series — farm-retail spread, retail cost, and farm value — were the result of inflation and deflation associated with the two World Wars and the depression in the 1930's (fig. 1).[4] Between 1914 and 1919, farm prices of food products (as measured by the farm value in fig. 1) doubled. Retail prices rose more slowly than farm prices during World War I but increased rapidly during the postwar boom. Sharp decreases occurred in all three series between 1920 and 1921 as a result of the severe drop in general price levels in the latter part of 1920.

Year-to-year changes in the farm-retail spread were greater between 1918 and 1921 than at any other period. In part, this may result from inadequacy of price data, as considerably fewer products were priced at retail at that time. The more "sensitive" products with respect to variations in spreads, or margins, had greater weight in the market basket in the earlier period.

The period 1921 to 1929 was marked by relative price stability with no great changes in relationship between farm and retail prices and margins.

During the depression following the 1929 "crash," farm prices fell faster than spreads, although this was the only period except for the 1920-21 recession in which there was a marked decline in the farm-retail spread. Between 1933 and 1937, farm prices rose enough to regain their 1929 relationship with retail prices and spreads. In the recession of 1937–

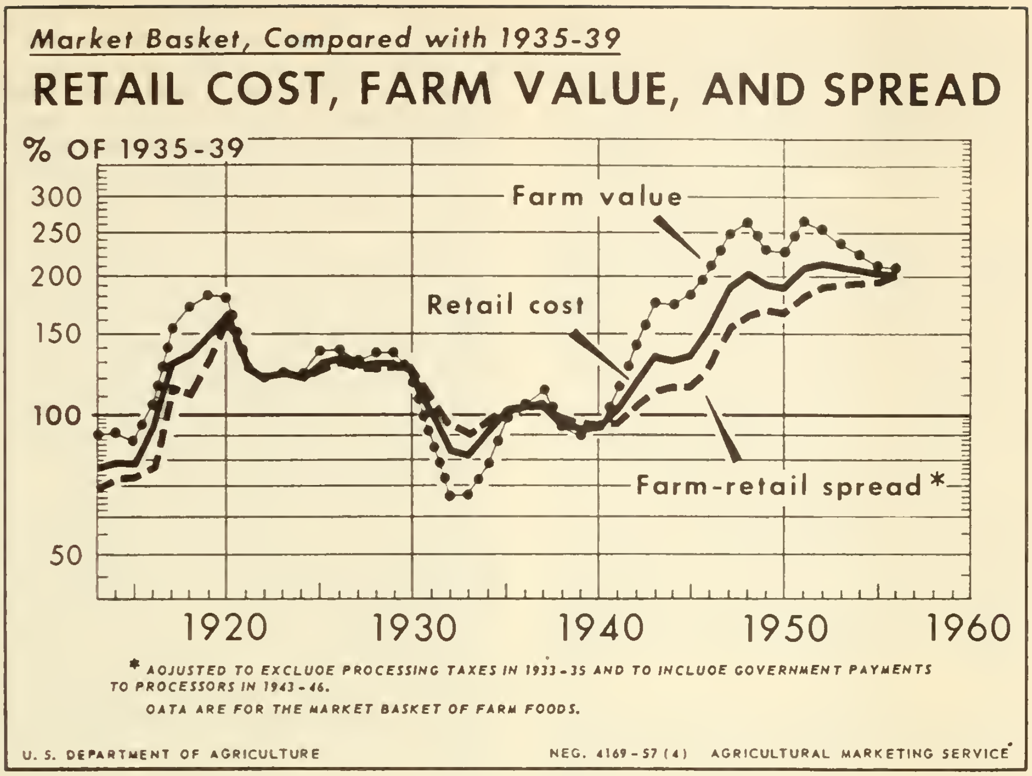
---

[1] In the actual computation, retail cost and farm value are derived for 7 product groups and totaled to obtain the market-basket statistics. More details on the computation of individual price spread series and the market basket totals are given in part II.

[2] Over a period of time it is necessary to change weights to maintain representativeness of current food purchase patterns. Before 1947, the market basket was based on 1935–39 food weights.

[3] See pp. 66–67 for a discussion of procedures used to adjust prices and weights to reflect changes in quality, container size, introduction of new products, and other factors.

[4] The index numbers in figure 1 are plotted on a ratio scale (logarithmic) so that relative changes in the three series during low-price periods can be compared directly with those during higher price periods. The data in table 48, p. 100, were converted to an index base of 1935–39 = 100 to facilitate analysis of long-term relationships between the series.



* ADJUSTED TO EXCLUDE PROCESSING TAXES IN 1933-35 AND TO INCLUDE GOVERNMENT PAYMENTS TO PROCESSORS IN 1943-46.

DATA ARE FOR THE MARKET BASKET OF FARM FOODS.

U. S. DEPARTMENT OF AGRICULTURE NEG. 4169-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 1

38, farm prices again fell relative to the other series.

Farm prices of food products rose faster during World War II than retail prices or the spread between farm and retail values. The farm value of the market basket rose about 100 percent from 1939 to 1945, compared with a 45 percent rise in the retail cost and an increase of only 10 percent in the farm-retail spread. In part, this larger rise in farm prices reflected the relatively low level of farm-product prices in 1939 and the greatly increased demand for farm products with the outbreak of World War II. But it also reflected in part the use of price controls and subsidy payments. During World War II the Government paid subsidies to processors and distributors of some commodities to enable them to pay relatively high prices to producers and at the same time keep prices to consumers relatively stable. The farm-retail spread when adjusted for these subsidy payments was 20 percent higher in 1945 than in 1939.

With the removal of price controls and subsidy payments in mid-1946, farm and retail prices and farm-retail spreads rose rapidly and at about the same rate between 1946 and 1948. During the 1948–49 recession, all of the series turned down but farm prices again fell faster. For a short period at the beginning of the Korean conflict, the farm prices of food products rose rapidly but after 1951 the trend was generally downward.

During the 1940's, the farm-retail spread in the market basket increased less than either farm or retail prices but it has continued to increase in each year since 1950. With the drop in farm prices since 1951 and a slight downward trend in retail food prices, the three series in 1956 had about the same relationship to each other as they had in 1940. (Post-World War II changes in the market-basket series are discussed in more detail in a later section.)

RIGIDITY IN FARM-RETAIL SPREAD

The year-to-year and longer term changes in farm-retail spreads are for the most part independent of the supply and demand factors affecting farm and retail prices of food products. This leads to less flexibility in the farm-retail spread, as illustrated in figure 1, than in farm and retail prices. Trends in the three series necessarily are interrelated but in periods of general price inflation and deflation the farm value fluctuates relatively more than either the retail cost or the farm-retail spread.

Changes in spreads over a period of time are determined primarily by changes in costs of all factors employed in processing and distributing operations. The margin or spread between the retail cost and farm value of the market basket represents the gross return received by agencies moving products from the farmer to the consumer. It includes all costs and taxes of these agencies plus their profits. These costs are determined by somewhat different factors than those that affect prices of farm products. For example, an increase in the supply of a farm product that causes a decline in its price is not likely to affect wage rates of laborers employed by agencies that market the product.

Prices and costs in the nonagricultural economy determine trends in farm-retail spreads for food products. Long-term trends in food marketing charges tend to parallel rather closely movements in the BLS wholesale price index for all commodities other than farm products and foods (fig. 2). This is not suprising as many of the commodities whose prices are in this index are costs to food marketing agencies. Labor, taxes, and other cost factors that affect the prices of these commodities also are major determinants of the trend in gross margins of food processing and distributing. The wholesale price index shown is somewhat more flexible than the farm-retail spread as it includes prices of textile products and nonfarm raw materials, many of which tend to be quite sensitive.

Many of the larger costs in the farm-retail spread are relatively inflexible because they are fixed over a period of time by contractual agreements. The wages of many laborers are fixed by contracts between unions and employers and generally are not changed until time for renogotiation. Rents usually are not changed until leases expire. Freight rates of railroads and many motortruck carriers and charges for electric power, telephone, telegraph, and other public utilities are fixed by Government agencies. These rates generally are changed only after applications are made and public hearings held.

There tends to be a one-way flexibility in many of these cost factors. They do not respond as quickly to inflationary pressures as farm prices. However, cost items in the farm-retail spread eventually respond to any significant rise in the general price level and once increased they come down very slowly and only under the strongest pressure. As noted earlier, during the period since 1913, the average spread between farm and retail prices of food declined substantially only during the periods of severe price deflation in 1920–21 and during the early 1930's. And the declines were considerably smaller than those in farm prices.

Probably there are more rigidities in the marketing structure now than ever before. Higher taxes, higher depreciation charges on plant and equipment, wage contracts, minimum wages, and in some cases guaranteed annual wages are all contributing to less flexibility in the costs making up margins or spreads.

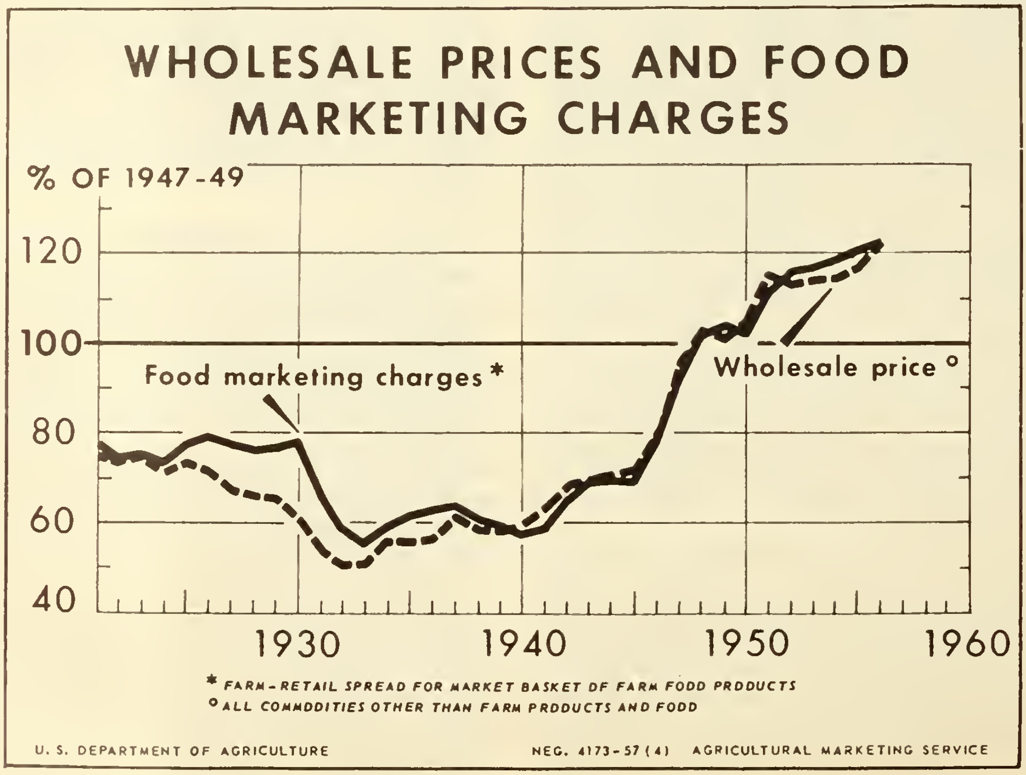


FIGURE 2

MAJOR COST ITEMS AND PROFITS

LABOR

As labor costs amount to one-half or more of total costs for many food industries, labor costs are a major factor affecting farm-retail spreads. Labor costs are affected by several factors, one of which is hourly earnings. Other direct costs of employing labor have increased more rapidly than hourly earnings in recent years. These include employer contributions to social insurance and various "fringe benefits," such as employer payments to health and welfare funds and private pension funds. The cost per unit of output, however, is determined not by hourly earnings but by the total labor bill divided by the total output. Changes in output per unit of input (or productivity), therefore, must also be considered in any analysis of trends in labor costs.

Hourly Earnings.—Average hourly earnings of employees in firms processing and distributing food products have increased steadily since the mid-1930's. In 1956, earnings averaged $1.82 per hour compared with $1.13 in 1947 and 60 cents in 1939. In the post-World War II period, the average annual increase has been about 5 percent (table 2). In general, wages in food processing average higher than in the distribution trades although wages vary markedly by industry and geographic region.

Besides changes in wage rates, average hourly earnings reflect variations in premium pay for overtime and late-shift work and changes in employment between relatively high-paid and low-paid workers. It is likely that, as a result of greater use of mechanical equipment in processing plants, warehouses, and other marketing establishments, the proportion of workers in relatively higher paid jobs has increased in recent years.

TABLE 2.—*Average hourly earnings of employees of firms marketing food products, 1935–56*[1]

Year	Average hourly earnings	Year	Average hourly earnings
	Dollars		*Dollars*
1935	0.54	1950	1.34
1936	.55	1951	1.43
1937	.60	1952	1.51
1938	.60	1953	1.60
1939	.60	1954	1.66
		1955	1.73
1940	.61	1956	1.82
1941	.65	1957	
1942	.72		
1943	.78		
1944	.83		
1945	.87		
1946	.99		
1947	1.13		
1948	1.22		
1949	1.28		

[1] Weighted average earnings of paid employees in food processing, wholesale trade, and retail food stores. These data are published currently on the inside cover page of "The Marketing and Transportation Situation."

Compiled from data published by U. S. Department of Labor.

The rise in wages and salaries in food marketing during and since World War II has been a part of the general rise in costs and prices that has occurred throughout the economy.

TABLE 3.—*Indexes of food marketing charges and labor cost per unit of product and average horuly earnings of food marketing workers, 1929–56*

(1947–49 = 100)

Year	Unit marketing charges [1]	Unit labor cost [2]	Hourly earnings [3]
1929	76	60	
1930	78	59	
1931	66	55	
1932	59	48	42
1933	56	43	40
1934	59	47	43
1935	61	51	44
1936	63	51	43
1937	64	56	46
1938	61	54	47
1939	59	54	48
1940	58	54	48
1941	59	56	52
1942	65	58	57
1943	69	61	61
1944	70	64	65
1945	69	70	70
1946	78	78	81
1947	94	90	92
1948	102	103	101
1949	104	107	107
1950	103	108	112
1951	111	117	119
1952	116	121	125
1953	117	124	133
1954	119	125	139
1955	121	126	143
1956 [4]	123	130	149
1957			

[1] Index of farm-retail spread in market basket (table 48, p. 100).

[2] Unit labor cost is the quotient of the indexes of total cost of labor and of the volume of food products marketed to domestic civilian consumers. The labor cost to which the first index relates is only for food sold to civilian consumers in this country; also the estimated cost of additional labor that would be required to handle in retail stores food sold in eating places has been substituted for the cost of labor in eating places. This adjustment makes the index comparable with that for marketing charges. The index of the volume of farm food products marketed was constructed by weighting the quantities sold to civilian consumers by 1947–49 average retail prices.

[3] Hourly earnings estimated by dividing total labor cost by total man-hours for all workers, including proprietors and family workers. Trend in hourly earnings of employees in table 2, therefore, may differ slightly from this series.

[4] Preliminary.

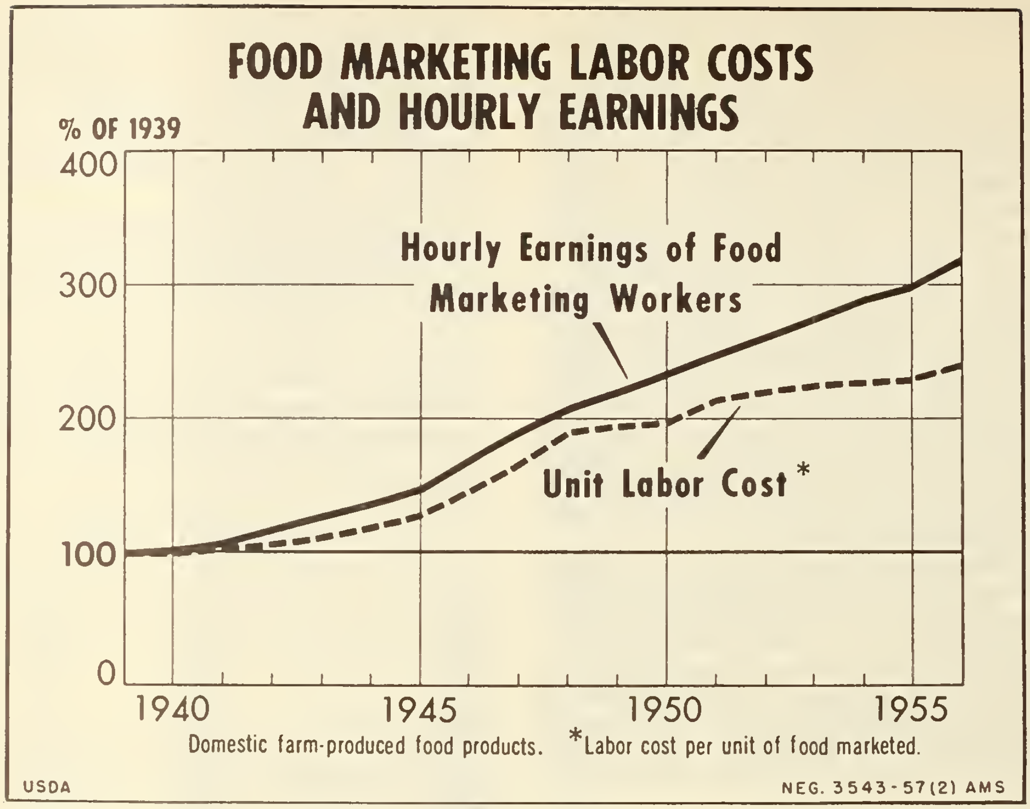


FIGURE 3

Year-to-year increases in average hourly earnings of employees in food manufacturing generally have been smaller since 1940 than those for all manufacturing employees, particularly during the early years of this period. The average increase in hourly earnings of retail food store employees has been about the same as the average for all employees in retail trade.

Unit Labor Costs and Productivity. — In recent years, labor costs per unit of product have not increased as fast as wage rates because output per man-hour has increased (fig. 3).[5] Compared with 1947–49 averages, hourly earnings of food-marketing workers in 1956 were almost 50 percent higher while labor costs per unit of product marketed increased by 30 percent (table 3). From 1945 to 1951 unit labor cost increased almost as rapidly as hourly earnings but since 1951 the increase in unit labor cost has been less than half as great as the increase in hourly earnings. These data are not sufficiently exact to be considered conclusive; however, the inference that output per unit of labor has increased markedly, particularly in the 1952–55 period, is consistent with other available data. Output per man has increased less since World War II than output per man-hour because of a substantial decrease in the average hours worked per week.

In addition to the higher wage rates and other payroll costs, the rise in per unit labor cost (as shown in table 3) may be caused in part by an increase in the number of operations performed per unit. Unit labor cost was determined by dividing the total labor bill by an index of volume of foods marketed which was computed by weighting retail quantities of farm food products by 1947–49 average retail prices. This volume index does not measure all of the increased processing of foods but other checks indicated that the total bias is not likely to be large (*17*, pp. 47–48).[6]

During recent years, food-marketing firms have adopted many new techniques with the expectation of increasing output per man-hour. The food-processing industry has made extensive application of assembly-line procedures and continuous processes of manufacture. Newly developed automatic equipment has reduced the need for machine operators and for human control of some processes. Electronic devices perform some operations. Modern procedures for handling materials have been introduced in many plants, warehouses, and stores. Bulk handling of milk, flour, sugar, and other food products is more common than formerly and new management procedures and work methods and new training programs are in use.

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[5] The indexes in fig. 3 are derived from the indexes given in table 3.

[6] Italic numbers in parentheses refer to items in bibliography page 139.

Adoption of new technology often requires installation of new equipment and changes in the layout of plants, warehouses, and stores. Reductions in labor cost achieved through increasing investments in plant and equipment are, of course, offset to some extent by the costs arising from such investments. Thus, payments for wages and salaries decline, but maintenance, depreciation, and interest costs rise.

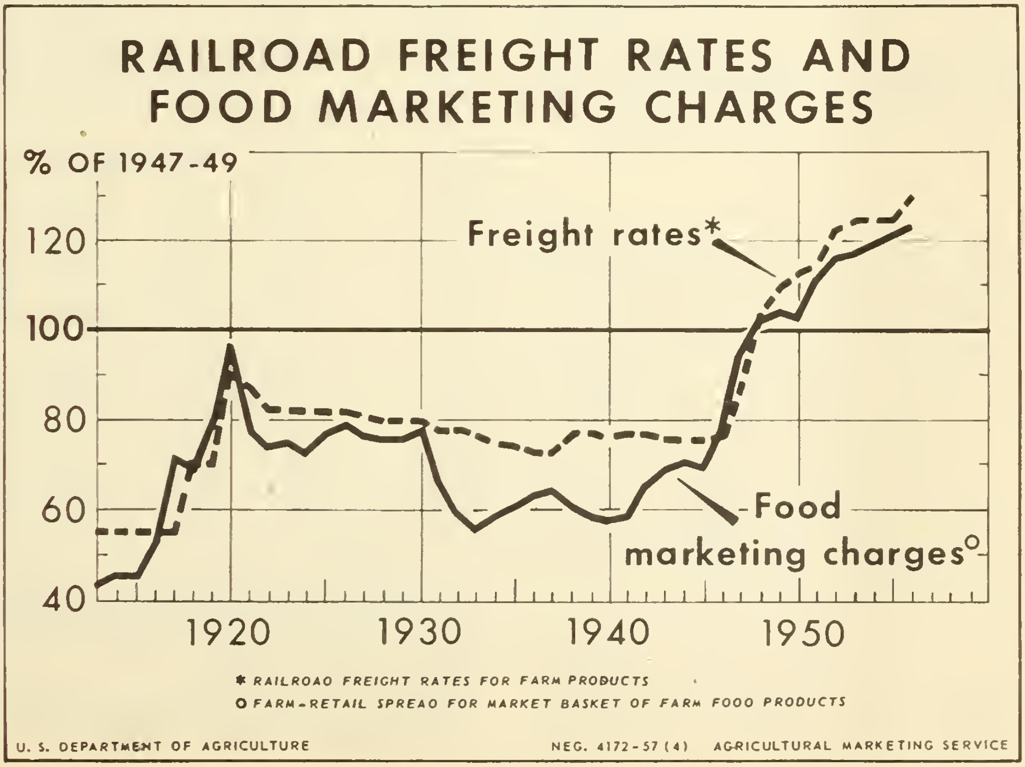
Some improvement in labor productivity probably has resulted from the increase in the volume of output of many marketing establishments in recent years. Often the minimum labor force required to perform certain tasks in an establishment can handle a larger volume of products without lengthening hours of work or without additional equipment.

It is likely that in most food processing industries and distribution trades labor costs per unit of output have increased during the post World War II period. Changes in unit labor cost for specific products or industries vary widely, depending on the actual increases in wage rates and the increases in productivity. Adoption of new technology and growth in output have varied markedly between industries like flour milling and poultry processing. According to available census data for 1947–48 and 1954 and data from other sources for about 20 food-processing and distributing industries, hourly earnings in each industry apparently increased more than labor costs per unit of product. In a few industries, unit labor costs increased by almost as much as hourly earnings while in two or three industries unit labor costs apparently declined slightly. Labor costs per unit were computed for the most part by totaling physical quantities of net shipments of products and dividing this total into the total payroll for all employees in that industry group. Changes in productivity cannot be measured precisely from these data, however, because of changes in the composition of the output that may be reflected in data on physical quantities. Variations in labor costs and wage rates as they apply to individual products and product groups are discussed in later sections of this report together with discussion of factors affecting these variations.

TRANSPORTATION

On the average, transportation charges make up from 10 to 15 percent of the farm-retail spread. This average, however, does not include intracity transportation costs such as local truck deliveries. For bulky perishable products shipped long distances, transportation charges often make up a much larger proportion. The share taken by transportation varies considerably with price as the transportation cost is a constant cost per unit of product and does not vary with prices in the short run.

Annual rail freight-rate indexes for four



* RAILROAD FREIGHT RATES FOR FARM PRODUCTS

O FARM-RETAIL SPREAD FOR MARKET BASKET OF FARM FOOD PRODUCTS

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Figure 4

food groups and a "combined" index for farm commodities are given in table 4. Similar indexes are not available for truck rates because of the lack of basic data for truck-hauling charges. Much truck hauling of farm products is by carriers not subject to economic regulation by the I.C.C. In general, truck rates tend to go up whenever rail rates increase.

Transportation rates reflect trends in costs of things bought by transportation agencies, changes in productivity, and changes in profits of transportation agencies. Similar to other marketing agencies, costs incurred by transportation firms are strongly influenced by trends in labor costs.

Over the period of 1913–56, railroad freight rates for farm products have increased by about the same percentage as the average of all charges for marketing the market-basket foods (fig. 4). The freight-rate index has been less flexible than the farm-retail spread, particularly on the downward side. It declined less in 1921-22 and during the depression of the 1930's. Rail freight rates typify the one-way flexibility referred to earlier that characterizes many of the cost items making up the farm-retail spread.

During World War II no general increases in freight rates were authorized by the Interstate Commerce Commission. But between July 1, 1946, and February 23, 1957, 13 general rate increases have been granted, authorizing railroads to raise hauling charges by 98 percent for all commodities considered together. The average increase in the level of rates on agricultural products was between 75 and 80 percent, partly because of "hold-downs" which limit the increase allowed for a particular commodity regardless of the distance it moves.

OTHER COSTS

In addition to labor and transportation charges, a wide variety of other costs are incurred by marketing agencies. These include depreciation charges, rent, taxes, advertising, fuel, power and other utilities, and a wide variety of supplies and containers. The importance of these items in total costs varies depending on the product and location of the firm. For example, the cost of the tin can or other container for some canned fruits and vegetables may exceed the cost of the raw product. For some cereal products, packaging costs and advertising expenditures may be as large as the farm value of the grains used.

In general, many of these other costs tend to be "sticky." Taxes, utility rates set by regulatory bodies, and even rents tend to lag behind movements in the general price level. Changes in other costs, as a group, lagged behind the increase in labor costs and freight rates in the early postwar period but in later years many of them have increased at a slightly faster rate.

Of a group of 16 items representative of supplies, containers, and other costs of food-marketing agencies, all but 2 items were higher in

TABLE 4.—*Index numbers of railroad freight rates for agricultural commodities, annual 1913–56* [1]

(1947–49 = 100)

Year [2]	Livestock	Meats [3]	Fruits and vegetables	Wheat	Combined index [4]
1913	45	--------	61	52	55
1914	45	--------	61	52	55
1915	45	--------	61	52	55
1916	46	--------	61	52	55
1917	46	--------	61	52	55
1918	58	--------	77	66	70
1919	58	--------	77	66	70
1920	76	--------	99	84	90
1921	75	--------	97	82	87
1922	71	--------	91	77	82
1923	71	--------	89	77	82
1924	71	--------	89	77	82
1925	70	--------	89	77	82
1926	70	--------	89	77	82
1927	70	--------	89	77	81
1928	70	--------	87	76	80
1929	69	--------	87	75	80
1930	69	--------	88	75	80
1931	69	--------	88	72	78
1932	69	--------	88	75	78
1933	69	--------	84	75	77
1934	65	--------	82	75	75
1935	65	--------	81	72	74
1936	65	--------	80	71	73
1937	65	--------	79	72	73
1938	73	--------	82	75	77
1939	73	--------	81	75	77
1940	73	73	81	75	76
1941	74	74	80	76	77
1942	75	75	80	77	77
1943	73	73	79	75	76
1944	73	73	79	75	76
1945	73	72	79	75	76
1946	75	71	80	76	77
1947	86	85	90	87	88
1948	103	103	103	103	103
1949	111	112	107	110	109
1950	114	115	109	112	112
1951	117	119	110	115	114
1952	127	127	116	123	122
1953	131	130	117	126	124
1954 [5]	131	130	117	126	124
1955 [5]	131	130	117	126	124
1956 [5]	138	137	122	132	130
1957	--------	--------	--------	--------	--------

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[1] See methods used in computing rail freight-rate indexes for farm products (*23*) for a description of these indexes.

[2] Beginning with 1945, freight-rate indexes are on a calendar-year basis. Earlier freight-rate indexes are on crop years beginning with July.

[3] Tariff data unavailable for general use before 1940.

[4] Weighted average of index numbers for livestock, meats, fruits and vegetables, wheat, and cotton.

[5] Preliminary.

1956 than the average for 1947–49 (table 5). Several were about 50 percent higher. The average increase in food-marketing charges, as measured by the farm-retail spread of the market basket, was 23 percent in this period.

Food-processing and distributing companies have made large capital investments in recent years. Adoption of new technology often requires installation of new equipment and changes in the layout of plants, warehouses, and stores. Depreciation and obsolescence charges have risen as a result of these large outlays for plant and equipment. These large investments have altered the cost structure of many firms. Fixed costs in the form of depreciation charges and often interest on indebtedness have increased relative to labor and other variable costs.

State and local taxes in many areas have increased steadily in recent years. The need for new schools, roads and other services provided by local governments has expanded greatly with the large increase in population in that last decade.

Expenditures for advertising and other sales promotion programs also have risen in recent years.

PROFITS

Profits tend to be more variable than cost items. This is in part because they are a residual. Sudden changes in prices related to demand and supply changes are more likely to be reflected in profits than in costs. Compared with those before World War II, profits per unit have shown less of a steady upward trend than gross margins and costs.

Profits (before taxes) per unit of product marketed have fluctuated considerably in the period since 1939, compared with trends in unit labor costs and average charges for marketing foods (fig. 5). Per unit profits increased sharply from 1940 to 1943 and again in 1946. In part, this reflected inventory gains that were made with the inflationary price movements of that period. As costs continued to move up after 1946, profits declined from their postwar peaks. Profits rose slightly during 1950, probably because of rising prices at the end of that year. Profits generally rose in 1955. In the 5-year period 1951–55, profits averaged slightly below the preceding 5-year period. For the most part, however, there has been no marked trend in profits in the last few years.

Compared with prewar averages, net profits before taxes as a percentage of the sales dollar have been higher in recent years. Net profits after taxes, however, were lower because a larger part of profits was paid out in taxes to Federal and State governments (table 6).

Profits per dollar of sales indicate the importance of profits in the retail prices of food products and indirectly in farm-retail spreads.[7] The ratio of profits to sales, however, is not as satisfactory a measure of profitability as return on investment. Firms with low rates of profits per sales dollar but with a rapid turnover and a high valued product relative to services performed may yield as high a rate of return to stockholders on their investment as firms with higher rates per sales dollar. Profit

TABLE 5.—*Cost of equipment and supplies bought by marketing firms, 1947–56*

(1947–49 = 100)

Item	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
Bituminous coal	87.4	106.9	105.7	105.5	105.9	105.9	108.4	102.4	102.0	112.6
Manufactured and natural gas	96.1	102.4	101.5	98.2	100.7	103.7	107.8	108.8	111.2	115.1
Fuel oil	96.0	128.1	75.9	88.5	99.2	88.9	87.4	93.3	104.8	119.2
Electric power	98.0	99.2	102.8	100.1	98.1	98.9	99.1	101.8	97.0	94.2
Machinery and equipment	92.6	100.9	106.5	110.3	123.5	122.6	125.3	128.2	134.0	147.5
Construction costs	93.3	104.0	103.0	106.5	115.4	119.1	121.8	121.6	124.9	130.7
Wax paper	92.6	105.1	102.4	103.9	122.8	124.4	118.0	117.9	124.1	135.1
Grocery bags	97.0	105.0	98.0	101.6	119.0	119.0	117.0	108.1	109.9	141.4
Container board (paper)	99.4	100.1	100.5	102.8	117.8	115.6	117.2	119.9	119.9	123.7
Glass containers	87.0	100.4	112.7	112.8	121.8	125.0	134.4	141.1	142.9	150.4
Metal containers	90.6	100.6	108.8	109.2	121.1	122.0	127.3	130.6	132.9	141.6
Tin cans	89.5	99.9	110.6	109.0	125.1	126.2	130.1	132.2	133.2	142.1
Motortruck prices	93.0	101.4	105.6	104.5	113.1	116.2	115.0	113.8	118.0	127.2
Gasoline	87.1	105.7	107.2	109.3	114.9	114.6	120.4	114.8	114.6	118.0
Lubricating oils	111.2	118.5	70.3	77.7	102.4	99.2	83.7	71.1	73.2	87.4
Tires and tubes	99.4	101.8	98.8	113.6	133.9	129.8	127.2	130.6	114.9	152.3

Indexes published by Bureau of Labor Statistics, except index of construction costs which is published by the Department of Commerce.

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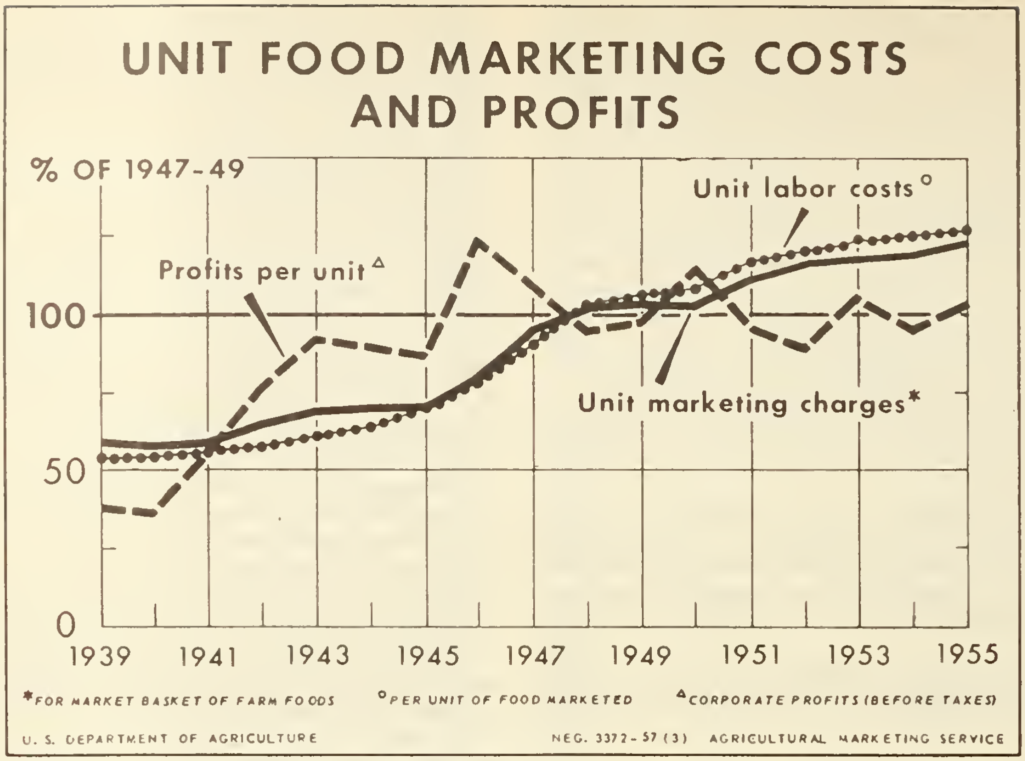
[7] Profits as a percentage of aggregate food-marketing charges and the retail food dollar are discussed on pp. 52-55.



UNIT FOOD MARKETING COSTS AND PROFITS

*FOR MARKET BASKET OF FARM FOODS °PER UNIT OF FOOD MARKETED △CORPORATE PROFITS (BEFORE TAXES)

U. S. DEPARTMENT OF AGRICULTURE NEG. 3372-57 (3) AGRICULTURAL MARKETING SERVICE

FIGURE 5

TABLE 6.—*Net profits (before and after provision for taxes on income) as percentage of sales, leading food companies, 1935–56*

Year	Food processing companies														Five wholesale food distributors		Eight retail food chains	
	Seven baking companies		Four grain mill products companies		Eleven meat packers		Four canning companies		Ten dairy products companies		Ten miscellaneous food companies [1]		Forty-six companies combined					
	Before taxes	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*	*Before taxes*	*After taxes*
1935–39 average	*Pct.* 8.7	*Pct.* 7.1	*Pct.* 4.8	*Pct.* 3.8	*Pct.* 1.1	*Pct.* 0.9	*Pct.* 3.7	*Pct.* 3.1	*Pct.* 3.7	*Pct.* 3.1	*Pct.* 10.2	*Pct.* 8.6	*Pct.* 3.7	*Pct.* 3.0	*Pct.* -----	*Pct.* -----	*Pct.* 1.8	*Pct.* 1.5
1940	8.9	6.3	6.8	4.6	1.8	1.4	5.0	3.5	4.3	3.2	10.5	7.9	4.3	3.2	-----	-----	2.0	1.5
1941	8.9	5.3	6.4	3.5	2.5	1.7	8.6	3.9	5.3	3.4	13.3	7.8	5.3	3.2	-----	-----	2.0	1.2
1941	10.1	4.8	6.8	2.6	2.5	1.2	8.2	3.1	6.4	2.9	12.9	5.5	5.3	2.4	-----	-----	1.9	.9
1943	10.0	4.0	5.5	2.2	2.8	1.1	8.0	3.5	7.5	2.8	11.6	5.0	5.5	2.2	-----	-----	2.0	1.0
1944	9.6	3.3	4.9	2.3	3.4	1.0	8.0	3.3	7.8	2.4	10.7	4.9	5.7	2.0	3.4	0.9	2.1	1.0
1945	8.6	3.6	5.5	2.6	1.7	9	6.5	3.8	7.0	2.3	8.6	4.0	4.7	2.0	3.6	1.0	2.3	.9
1946	10.2	6.0	5.2	2.8	3.3	1.7	10.0	6.1	6.0	3.5	10.0	6.0	5.8	3.3	4.4	2.2	2.9	1.7
1947	8.1	4.5	4.9	2.9	2.2	1.2	7.9	5.0	4.4	2.6	9.4	5.6	4.3	2.5	3.0	1.8	2.5	1.5
1948	8.5	4.9	5.2	3.3	1.2	.6	6.1	3.7	4.1	2.5	8.7	5.4	3.6	2.2	2.8	1.8	2.2	1.4
1949	8.3	5.0	6.0	3.6	.8	.5	3.6	2.4	5.5	3.3	7.7	4.7	3.5	2.1	2.4	1.5	2.3	1.4
1950	8.9	4.9	6.0	3.1	1.3	.8	10.1	5.3	6.0	3.2	9.7	5.3	4.6	2.5	2.1	1.2	2.4	1.2
1951	7.1	3.5	4.9	2.3	1.1	.6	4.9	2.5	5.1	2.2	7.6	3.6	3.6	1.7	2.1	1.1	1.8	.9
1952	7.6	3.5	5.1	2.5	.8	.4	5.3	2.7	4.7	2.1	7.4	3.6	3.4	1.6	1.6	.7	1.9	.8
1953	7.5	3.5	5.4	2.5	1.6	.8	4.8	2.3	5.3	2.3	7.5	3.6	4.0	1.9	2.0	1.0	2.1	.9
1954	7.1	3.4	6.2	2.9	.7	.3	5.5	2.8	5.3	2.6	7.8	3.8	3.8	1.8	1.9	1.0	2.0	1.0
1955	7.0	3.4	6.4	3.1	1.5	.8	6.7	3.6	5.0	2.6	8.1	4.0	4.3	2.2	1.7	.9	2.0	1.0
1956	6.7	3.2	6.0	2.9	6.5	.9	5.3	2.9	4.9	2.6	8.1	4.0	4.3	2.2	1.9	1.0	2.3	1.1
1957	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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[1] Includes sugar and corn refining companies, processors of vegetable oils, and companies manufacturing a wide variety of packaged foods.

Compiled from financial statements reported in "Moody's Industrials."

rates on stockholders' equity are less variable between groups of leading food companies than profit rates per dollar of sales (table 7). Returns on stockholders' equity in food industries generally are relatively modest in comparison with other industries.

SHORT-TERM RELATIONSHIPS

For long term comparisons, the farm-retail spread for the market basket tends to parallel the general trends in cost items discussed in the preceding section, but monthly changes in farm-retail spreads may sometimes show little correspondence to changes in costs. This is particularly true for meat products, eggs, and fresh fruits and vegetables for which rapid fluctuations in supplies and prices are not uncommon.

Furthermore, farm-retail spreads for individual products do not always follow the general trend. Spreads for individual products are more variable than those for product groups and the market basket and may not be closely related to the costs of marketing the specific product. Retailers, wholesalers, and other multi-product marketing firms tend to look upon their entire organization as a unit. They contend that it is meaningless to attempt to explain the margin for any one product or group of products on the basis of costs because pricing policies must be "geared" to net returns from the sale of all products.

The trend in the farm-retail spread for the farm food market basket was upward from 1947 through 1956 with the exception of 1949. During this period, however, month-to-month changes in the farm-retail spread were frequently down as well as up. These fluctuations were of a smaller magnitude than those in the retail and farm prices (fig. 6). Short-run fluctuations are caused by seasonal movements in prices and spreads, variations in marketings and prices of farm products partly associated with production cycles, and "irregular" fluctuations associated with the measurement of concurrent price spreads, inadequacies of price data, and other factors.[8]

Seasonality of Market-Basket Series.—A part of the month-to-month movements in farm and retail prices of food products and farm-retail spreads can be attributed to more or less regular, recurring seasonal variations in marketings of farm food products. These are the changes that are independent of longer time trends caused by changes in the general price

TABLE 7.—*Net profits (less provision for taxes on income) as percentage of stockholder's equity, leading food companies, 1935–56*

Year	Food processing companies							Five wholesale food distributors	Eight retail food chains
	Eight baking companies	Seven grain mill products companies	Eleven meat packers	Five canning companies	Ten dairy products companies	Ten miscellaneous food companies (1)	Fifty-one companies combined		
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
1935–39 averages	8.1	9.7	3.6	5.6	7.9	9.8	7.4	--------	8.4
1940	7.9	9.8	5.4	6.6	8.7	9.2	7.7	--------	9.7
1941	7.6	9.5	8.6	10.5	11.1	10.8	9.7	--------	9.4
1942	9.5	8.0	8.1	8.4	11.3	8.7	9.0	--------	7.4
1943	9.3	10.2	7.9	8.6	11.5	9.1	9.2	--------	7.8
1944	8.7	10.3	7.2	9.1	10.1	8.2	8.5	11.2	8.2
1945	10.0	10.9	5.2	10.2	10.0	8.1	8.2	12.7	8.1
1946	18.3	13.2	9.9	18.4	17.0	12.6	13.6	27.3	18.1
1947	15.6	15.7	11.0	13.4	13.2	14.6	13.4	18.8	18.8
1948	17.6	14.6	5.6	9.6	12.5	13.5	11.3	16.1	16.9
1949	16.5	13.8	3.9	5.4	14.5	10.5	10.0	12.5	15.4
1950	15.5	13.4	5.9	15.3	13.3	12.7	11.5	10.0	13.8
1951	11.7	11.0	5.1	6.8	10.2	9.0	8.5	9.5	10.0
1952	12.1	11.0	3.2	7.5	9.9	9.0	8.1	5.4	9.8
1953	12.3	10.7	6.6	6.6	11.0	9.2	9.2	7.1	11.0
1954	11.3	12.4	2.7	7.8	12.1	9.9	8.8	7.5	10.9
1955	11.4	12.4	6.5	10.1	12.0	10.4	10.1	6.7	10.7
1956	11.4	11.7	7.0	8.2	12.2	11.2	10.2	7.6	12.8
1957	--------	--------	--------	--------	--------	--------	--------	--------	--------

[1] Includes sugar and corn refining companies, processors of vegetable oils, and companies manufacturing a wide variety of packaged foods.

Compiled from financial statements reported in "Moody's Industrials."

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[8] Sources of price data, the possible effects of lack of "week-end special" prices, and other factors are discussed on pp. 65–72.

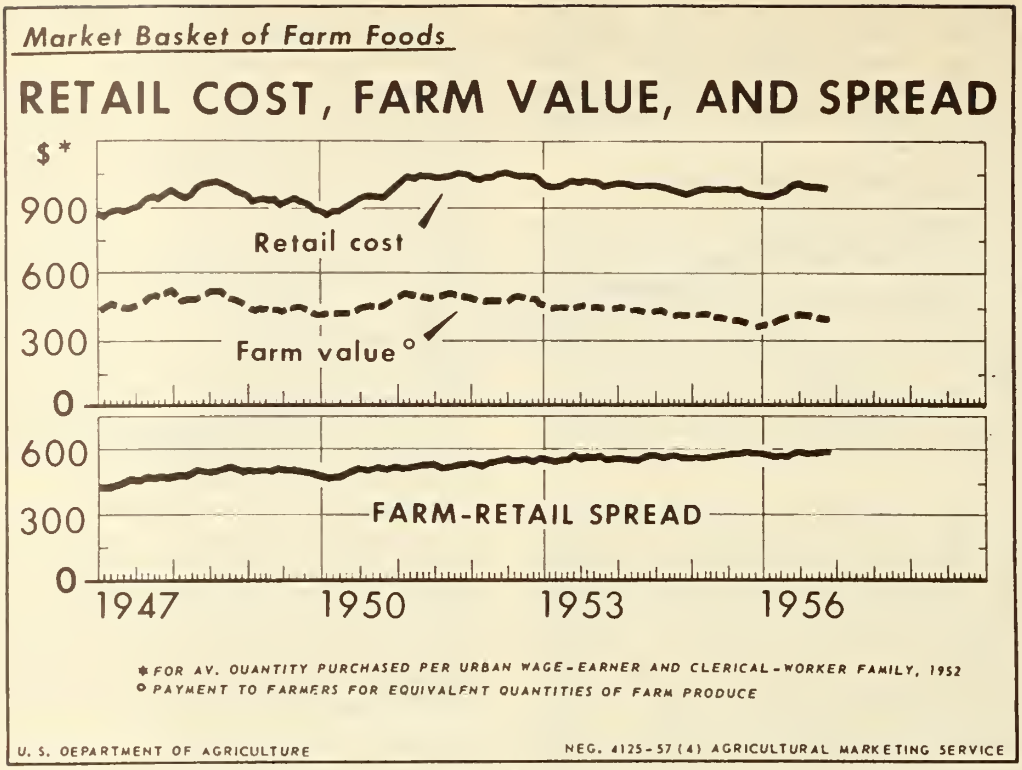

FIGURE 6

levels and changes in the longer term supply-demand relationship for food products.

The production and marketing of almost all farm produce is seasonal in character. Some products are harvested in a few weeks or months and because of their perishability are also marketed in this time; others, like milk and eggs, are produced the year around but they also have marked seasonal variations. For the most part, retail prices and spreads for nonperishables and processed products have less seasonal variation because peak marketings at the farm level can be evened out over the year in retail sales to consumers. Seasonal farm price movements for products like grains have less impact on seasonal variations in retail prices and spreads because the farm value of the grain is a small proportion of the retail price of the finished product. Products with alternative uses — fresh and processed — also tend to have less seasonal variation than products whose only or major use is in the fresh form.

The seasonal indexes for the market basket represent the composite of the seasonal indexes for products and product groups. Seasonal changes are more pronounced for fresh fruits and vegetables than for any other group. Prices and spreads are highest in late spring and early summer when marketing of many fruits and vegetables are at a seasonal low. Seasonal variations are fairly pronounced for meat products but their monthly pattern is somewhat different than fresh fruits and vegetables (table 10, p. 18, and table 26, p. 41).

On the average, the retail cost, farm value, and farm-retail spread for the market basket are higher from June to October than in the months November to May (fig. 7). The seasonal indexes for the retail cost (based on data for 1947–56) range from a low of 98.2 in February to a high of 101.5 in September; the farm value, from 97.9 in February to 102.9 in September; and the farm-retail spread from 98.4 in February and March to 101.8 in June (table 8).

The range in the seasonal indexes is less for the farm-retail spread than for the farm value but the seasonal movements are more "regular." In other words, when the spread is adjusted for these seasonal indexes, relatively less variation is "unaccounted for" than in the farm value.

Other Factors Affecting Monthly Fluctuations. — AMS derives concurrent spreads for most food products by comparing retail prices for the first 3 days of the week of the 15th with midmonth prices received by farmers. Some of the monthly fluctuations observed in these price spreads would be evened out if the comparisons were based on farm and retail prices representing a longer time period in each month. This "random" fluctuation in spreads is, of course, most noticeable for the products with more frequent price fluctuations.

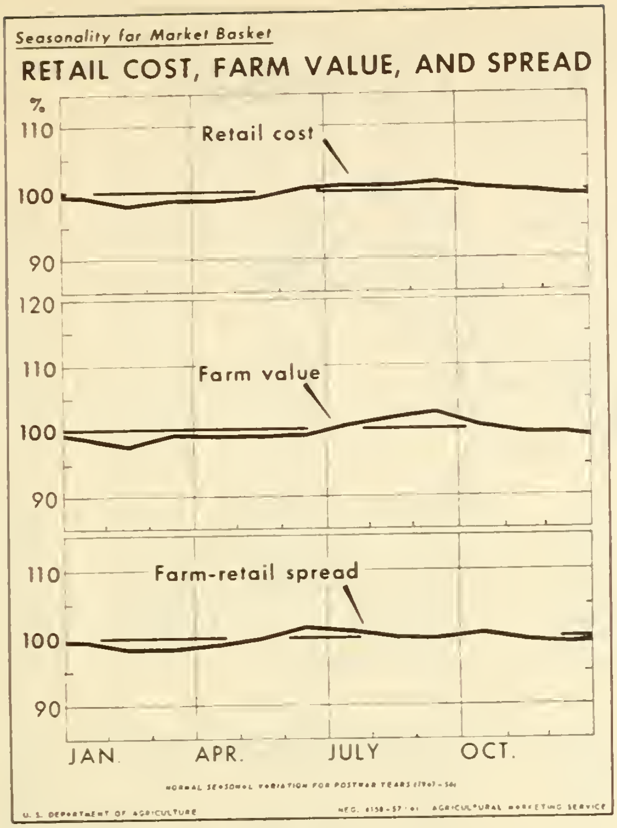

FIGURE 7

TABLE 8.—*Market basket of farm food products: Seasonal indexes for retail cost, farm value, and farm-retail spread, 1947–56*

Month	Retail cost	Farm value	Farm-retail spread
January	99.5	98.9	99.7
February	98.2	97.9	98.4
March	98.7	99.4	98.4
April	99.0	99.2	99.2
May	99.5	99.3	100.1
June	100.6	99.5	101.8
July	101.1	101.0	101.2
August	101.1	102.0	100.3
September	101.5	102.9	100.2
October	100.9	100.6	101.0
November	100.1	99.7	100.0
December	99.7	99.7	99.6

Lags in price adjustments with successive widenings and narrowings in farm-retail spreads are associated with many important food products for which price changes at wholesale, farm, and other market levels are more frequent than at retail. Examples of these products are pork, beef, chicken, and many fruits and vegetables in addition to most grain and oil products.

Price changes at retail generally are less frequent but when changed they may be of a greater magnitude. Retailers usually change prices no oftener than once a week, except for special sales within the week. Also, retailers generally believe that consumers prefer a relatively stable price situation rather than one in which prices are constantly changing by small amounts. They prefer to wait until definite trends in wholesale prices become established before changing retail prices. Even for most perishables, many retailers may purchase supplies for a week or more at a time so they are not affected by daily fluctuations in wholesale prices until the time of their next purchase. Therefore, retail prices tend to lag somewhat behind changes in wholesale prices on both the up and down movements. This tendency results in alternate squeezes and widenings of farm-retail spreads in the short run. It also tends to accentuate the instability of farm prices for products with marked seasonal and short-run fluctuations in production and marketings.

FARM-RETAIL SPREADS FOR PRODUCT GROUPS

MEAT PRODUCTS

The meat products group is one of the three livestock products groups in the market basket; it includes the so-called red meats — beef, veal, pork, and lamb — in fresh and processed form.[9] In terms of retail cost, this group is the largest of any group, generally making up from 25 to 30 percent of urban family expenditures for the farm food products in this "typical" market basket.[10] In terms of payments to farmers for the farm produce represented in this market basket, meat products are an even more significant part. The farm value of the meat products varies from 30 to 40 percent of the total farm value of the foods in the market basket.

Because of the importance of meat products in the total, trends in farm and retail prices of meat products are the most significant ones in affecting overall trends for all food products. This is particularly true of short-term comparisons because the more rapid fluctuations in livestock marketings cause livestock and meat

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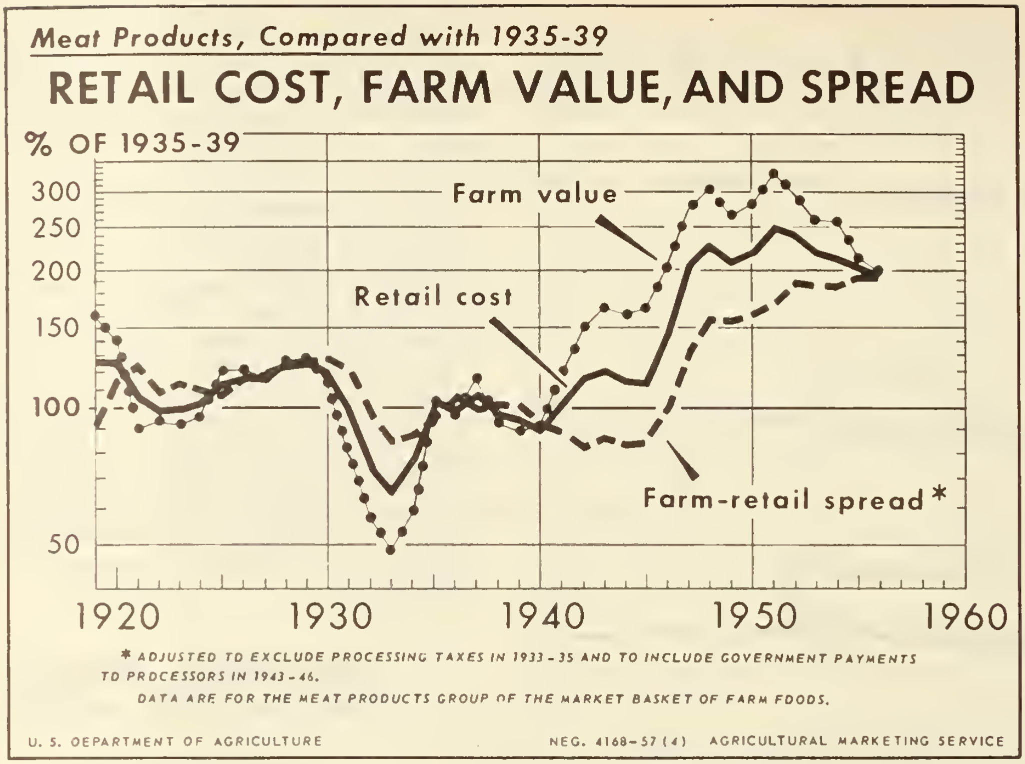
[9] For a description of the methodology used in computing the meat products group and the individual species, see pp. 76-81. Annual data and quarterly data (beginning with 1947) for the meat products group, Choice grade beef, pork, and Choice grade lamb are given in tables 49-53, pp. 101-105.

[10] Note that this market basket excludes coffee, bananas, fish, and other imported and nonfarm foods which generally make up from 10 to 15 percent of the family food budget. Therefore, meat products make up a slightly larger proportion of purchases of domestically produced foods than of all foods because imports of red meats are a negligible part of total meat consumption.



* ADJUSTED TO EXCLUDE PROCESSING TAXES IN 1933-35 AND TO INCLUDE GOVERNMENT PAYMENTS TO PROCESSORS IN 1943-46.

DATA ARE FOR THE MEAT PRODUCTS GROUP OF THE MARKET BASKET OF FARM FOODS.

U. S. DEPARTMENT OF AGRICULTURE NEG. 4168-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 8

prices to change far more rapidly than prices of most other food products.

TRENDS, 1919-56

Index-Number Series.—Trends since 1919, by years, for the meat products group are given in figure 8.[11] The outstanding feature in these trends of annual data is the relative stability of the farm-retail spread through long periods during which prices at farm and retail showed considerable fluctuation. The farm-value series, however, has fluctuated considerably more than the retail-cost series. As a percentage of 1935-39 the farm value ranged from 47 percent in 1933 to 327 in 1951 while the retail cost ranged from 64 percent in 1933 to 250 in 1951. The farm-retail spread varied from lows of 82 in 1942 and 85 in 1933 to a high of 196 percent in 1955.

As shown in figure 8, the three series were about equal in the period 1925-29 (as a ratio of 1935-39). All of them declined from 1929 to 1933 but the drop in retail prices was roughly twice, and the drop in the farm value about three times as great as the drop in the spread. In the second half of the 1930's, the three series were again in about the same average relationship as they were in 1935-39. But in early years of World War II and immediately following, farm and retail prices increased rapidly to a high in 1951. The farm-retail spread increased considerably less between 1940 and 1951 but continued to rise after 1951 while farm and retail values declined. In 1956 the relationship was approximately the same as that in 1935-39.

The general pattern of the long time trends of the three meat product series and the relationships between them in periods of inflation and deflation are similar to that for the total market basket (fig. 1, p. 3). The farm value in the meat products series, however, has shown greater amplitude than the farm value for the market basket. It dropped further during the early 1930's and increased by a greater amount after World War II.

Average Prices and Spreads.—The next chart (fig. 9) also illustrates the slower movement of farm-retail spreads for meat products (on an annual basis) relative to farm and retail prices. This chart shows average values for the period 1919 through 1956 for Choice grade beef, pork, and lamb cuts combined. Consumption from marketings of beef, pork, and lamb in each year was used as weights (table 9). It should be noted that this composite retail price exceeds the average price paid by consumers for all kinds of meats because it does not include the lower priced grades of fresh and processed

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[11] The index numbers in figure 8 are plotted on a ratio scale (logarithmic) so that relative changes in the 3 series during low-price periods can be compared directly with those during higher price periods. The data in table 50, p. 102, were converted to an index base of 1935-39 to facilitate analysis of long-term relationships between the series.

TABLE 9.—*Average composite retail price, farm value, and farm-retail spread for Choice grade beef, pork, and lamb cuts, 1919–56* [1]

Year	Retail price per pound	Net farm value	Farm-retail spread
	Cents	*Cents*	*Cents*
1919	37.2	24.9	12.3
1920	36.9	21.4	15.5
1921	30.6	14.0	16.6
1922	29.2	14.7	14.5
1923	28.8	13.7	15.1
1924	29.2	14.5	14.7
1925	33.0	18.7	14.3
1926	34.6	19.0	15.6
1927	34.2	18.0	16.2
1928	38.9	18.5	16.4
1929	36.1	19.1	17.0
1930	34.0	17.0	17.0
1931	28.0	11.9	16.1
1932	20.6	8.2	12.4
1933 [2]	18.2	7.3	10.9
1934 [2]	22.2	9.2	13.0
1935 [2]	30.0	16.0	14.0
1936	29.0	15.2	13.8
1937	31.4	18.2	13.2
1938	27.9	14.4	13.5
1939	26.9	13.5	13.4
1940	25.0	13.0	12.0
1941	29.1	17.4	11.7
1942	33.9	23.1	10.8
1943 [2]	34.9	24.8	10.1
1944 [2]	33.0	24.2	8.8
1945 [2]	32.9	25.0	7.9
1946 [2]	41.9	30.7	11.2
1947	61.1	43.4	17.7
1948	67.9	46.9	21.0
1949	61.9	41.1	20.8
1950	64.5	43.3	21.2
1951	71.2	48.5	22.7
1952	70.2	46.4	23.8
1953	66.4	42.3	24.1
1954	66.8	42.6	24.2
1955	61.5	36.0	25.5
1956	59.7	34.1	25.6
1957			

[1] Composite retail prices and farm values of Choice grade beef, pork, and lamb cuts (tables 51, 52, and 53) are weighted by total civilian consumption of beef, pork, and lamb adjusted to eliminate quantities of farm slaughter used on farms and imported meat. Quantities of each kind of meat are carcass weights reduced to estimated retail weights. Weights vary by years.

[2] Data with farm value and farm-retail spread adjusted for processing taxes in 1933–35, for Government payments to producers in 1945–46, and for Government payments to processors in 1943–46 are:

Year	Retail price	Net farm value	Farm-retail spread
	Cents	*Cents*	*Cents*
1933	18.2	7.4	10.8
1934	22.2	10.9	11.3
1935	30.0	17.7	12.3
1943	34.9	24.8	11.3
1944	33.0	24.2	11.2
1945	32.9	25.5	11.4
1946	41.9	33.1	13.4

beef as well as some of the processed pork and lamb products. Also, the trends in these series do not correspond exactly with the trends in market-basket series for meat products because of the different weightings and prices used. The primary purpose of the series in figure 9 and table 9 is to measure trends in actual retail prices and farm-retail spreads for the major carcass cuts of meats over a longtime period.

During the 1920's the spreads between the retail prices of Choice grade beef, pork, and lamb and the net farm value of equivalent quantities of livestock sold by producers averaged 15 or 16 cents per retail pound in most years. They declined to a low of 11 cents in the depression and increased to around 13 cents during the latter half of the 1930's. Spreads averaged 11 cents during the most of the war period when the wartime subsidies paid to processors are included. As far as farmers and consumers were concerned, however, the effect of these subsidies was to reduce the actual difference between average retail prices and the equivalent farm values to a low point of 8 cents in 1945. During 1933-35 taxes levied on processors under the Agricultural Adjustment Act of 1933 had the opposite effect; the spread between retail prices and the farm value was increased by the amount of the tax (fig. 9) although these processing taxes were used to provide subsidy payments to farmers.

Following World War II, the average farm-retail spread for those 3 meat items increased sharply from 11 cents in 1945 to 21 cents in 1948. Since 1948 it has increased gradually to a high figure of almost 26 cents per retail pound in 1956.

TRENDS AND SHORT-TERM CHANGES, 1947-56

As noted previously, the trend in farm-retail spread for meat products has been upward from from 1947 to date. This upward trend was closely associated with a steady increase in average hourly earnings of workers in meat packing firms and retail food stores (fig. 10). This picture is similar to that for all food products which was discussed earlier. Other costs, of course, were involved, such as rents, supplies, transportation, and equipment. Some of the increases in costs have been offset by increased productivity, that is, greater output per unit of input employed.[12] But for the processing and distribution of all foods as a group, increased efficiency has not kept pace with increases in costs since 1947. It is likely that this also is true for the meat products group.

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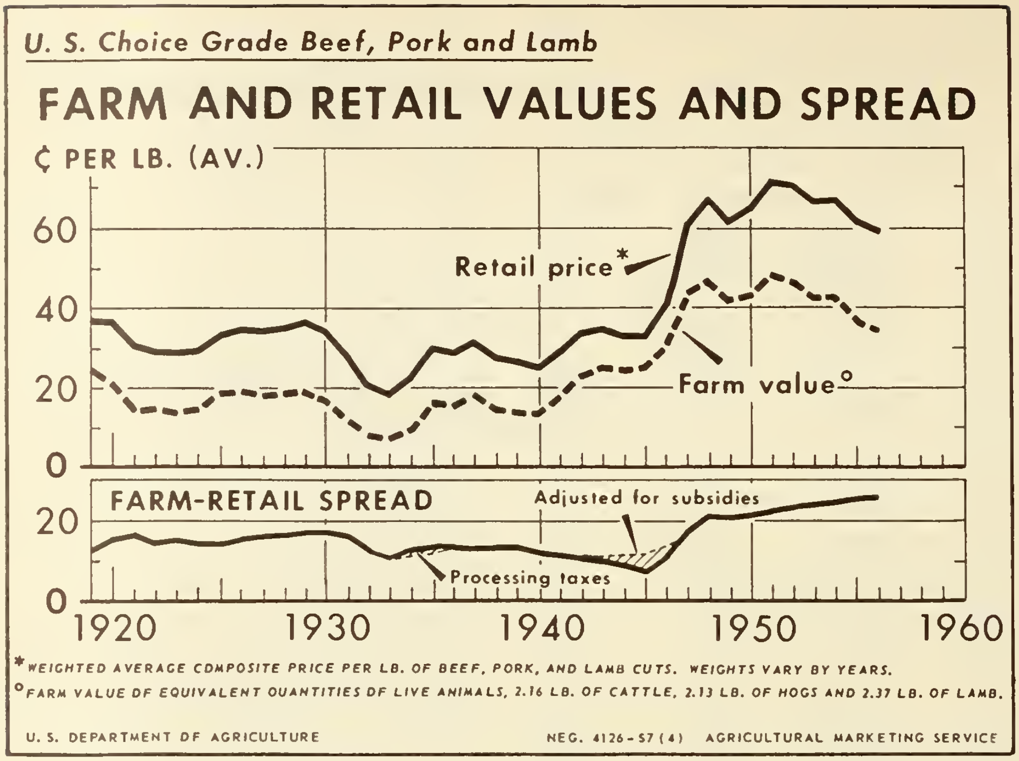
[12] Also, changes in services provided by processing and distribution agencies may affect the trends in spreads although the market-basket series as described on pp. 72–76 are constructed so as to measure insofar as possible changes in the costs of providing the same services.

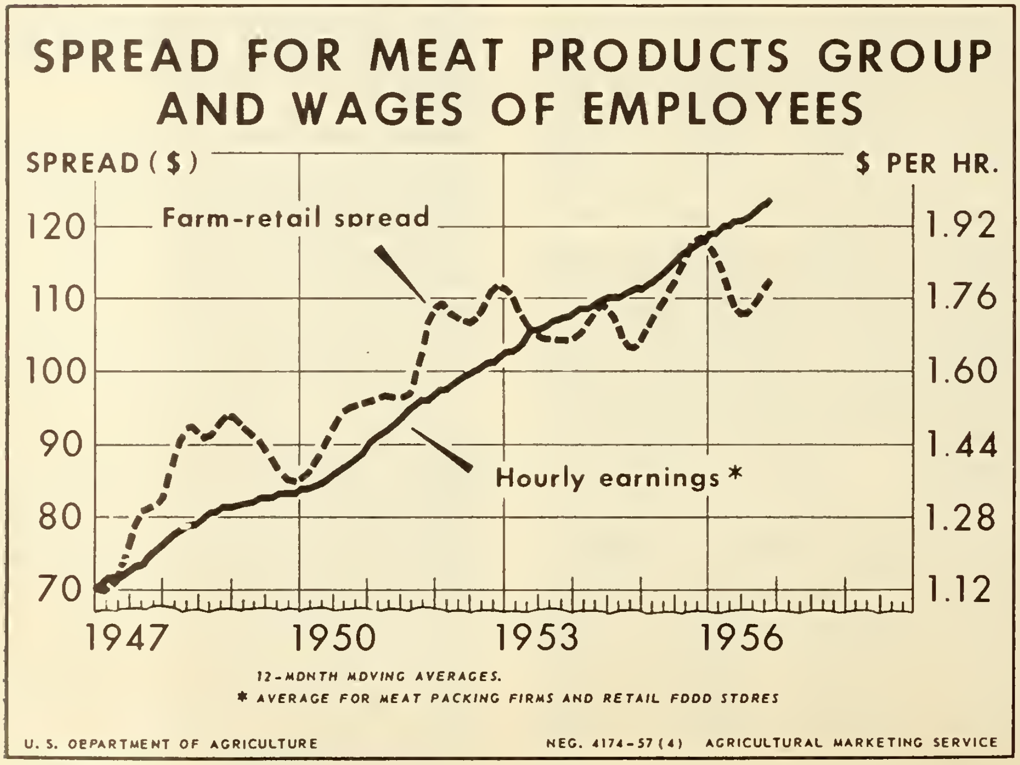


*WEIGHTED AVERAGE COMPOSITE PRICE PER LB. OF BEEF, PORK, AND LAMB CUTS. WEIGHTS VARY BY YEARS.

°FARM VALUE OF EQUIVALENT QUANTITIES OF LIVE ANIMALS, 2.16 LB. OF CATTLE, 2.13 LB. OF HOGS AND 2.37 LB. OF LAMB.

U. S. DEPARTMENT OF AGRICULTURE NEG. 4126-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 9



12-MONTH MOVING AVERAGES.

* AVERAGE FOR MEAT PACKING FIRMS AND RETAIL FOOD STORES

U. S. DEPARTMENT OF AGRICULTURE NEG. 4174-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 10

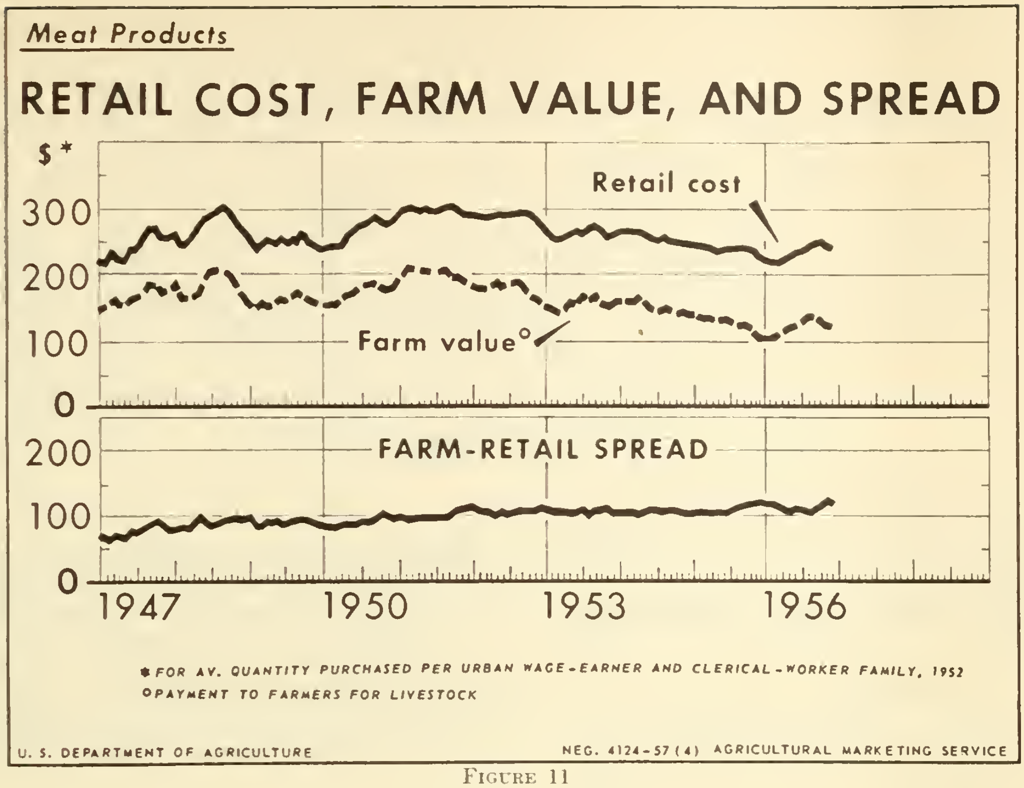


FIGURE 11

Farm-retail spreads for the meat products group fluctuated much more on a monthly or short-time cyclical basis than on an annual basis (fig. 11). These short-time fluctuations were not directly related to changes in actual cost of providing marketing services because costs tended to move steadily upward rather than up and down during this period. The longest and most pronounced downward movement in the spread—contrary to the general upward trend—was from the end of 1955 to the middle of 1956. Some of the short-time fluctuations probably were related to changes in supply-demand relationships for meat products. Also, there was a tendency for retail prices to lag behind changes in wholesale and farm prices.

Individual seasonal indexes for pork and beef, based on data from 1947 through 1956, illustrate responses to supply-demand conditions more sharply (table 10). The seasonal pork spread averaged 21.4 cents per pound during February through August. The average spread then increased sharply from August to September and was 24.2 cents per pound during September to November.[13]

The spread for pork thus typically increased at times when farm and retail values were falling seasonally (fig. 12). In this situation, the farm-retail spread behaves as though it were a price for marketing (processing and distribution) services. The supply of marketing services, which is made up largely of plant facilities and labor supplies, is rather inflexible in the short run and with increased marketings of livestock there is a greater demand for these services. With this higher demand for marketing services, the spread tends to widen; the reverse is true in periods of rising prices and decreased marketings.[14]

The seasonal pattern for beef was less pronounced than for pork (table 10). Also, the seasonal pattern for beef spreads was less regular from the period 1947-56; in other words, less of the short-run fluctuations was "accounted for" by the seasonal index. The beef spread on the average reached a seasonal high of 24.3 cents in June, declined during the latter part of the year, and reached a low of 21.9 cents per pound in March and April. As the seasonal pattern for beef was different than for pork, they partially offset each other. And the seasonal pattern for the combined meat products group was more stable than either of these two component items considered separately (fig. 13).

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[13] These values are the seasonal indexes for the 1947–56 period expressed in cents per pound; they do not necessarily agree with unadjusted values shown in the price-spread tables for pork and beef.

[14] A more intensive and detailed discussion of price behavior, relationships of margins (farm-retail spreads) to prices, and changes in component margins for Choice grade beef and pork during 1949–55 are given in other reports (*324*, *333*, *336*).

TABLE 10.—*Meat products, Choice grade beef, and pork (excluding lard): Seasonal indexes for retail cost, farm value, and farm-retail spread, 1947–56* [1]

Month	Meat products			Beef (Choice grade)			Pork (excluding lard)		
	Retail cost	Farm value	Farm-retail spread	Retail price	Farm value	Farm-retail spread	Retail price	Farm value	Farm-retail spread
January	98.2	96.2	100.2	99.1	98.6	98.9	95.7	91.3	100.7
February	96.2	95.7	96.2	96.1	94.6	98.1	94.9	94.6	95.7
March	97.3	97.3	96.7	95.9	96.0	95.7	96.1	95.0	98.2
April	97.2	97.6	97.2	96.9	97.5	95.6	96.5	95.8	98.7
May	99.1	99.8	96.8	98.6	97.7	99.8	98.7	101.0	95.8
June	101.1	101.1	101.8	101.5	99.2	106.1	102.8	107.1	97.9
July	100.7	103.1	97.2	101.5	101.0	103.8	103.9	113.3	90.1
August	103.0	105.5	99.3	102.9	103.0	103.7	106.5	114.1	94.6
September	105.4	106.7	104.1	103.7	104.8	101.8	108.0	108.5	106.3
October	103.5	102.5	105.5	102.5	103.9	99.5	103.8	99.6	110.7
November	99.8	97.8	103.3	101.3	102.4	98.2	97.5	89.3	108.1
December	98.5	96.8	101.8	99.9	101.4	98.8	95.5	90.2	102.9

[1] Seasonal indexes computed from monthly data of series in tables 49, 51 and 53, pp. 101-105.

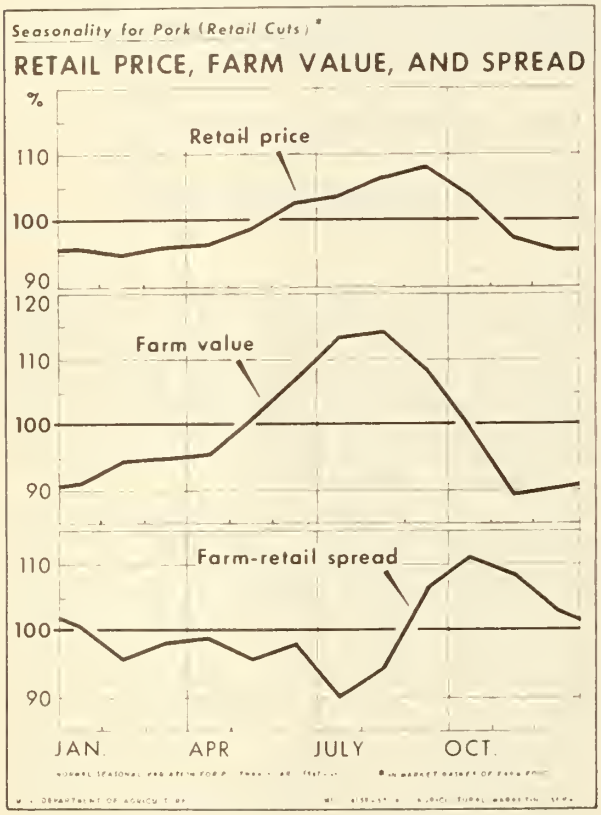

FIGURE 12

MARKETING SERVICES AND COST FACTORS

Moving livestock from the farm and converting it to meat for the retail grocery counter involves four rather broad functions or operational sequences. The first is the marketing of livestock which includes the truck and rail transporation charges to the slaughtering plant, the expenses at terminal or auction markets, and the expenses of dealers who may be involved in the market transactions. The second is meat packing, the slaughtering and processing function. The third is wholesaling which also includes transporation of meat. Retailing is the fourth and final phase. Meatpacking and retailing account for the major part of the total spread. According to a study made in 1947, the percentages of the total spread going to each function were as follows (*330*, p. 4) :

	Percent
Retailing	45
Wholesaling	12
Meatpacking	37
Marketing livestock	6
Total	100

These proportions probably have not changed greatly since 1947, although these proportions also vary by species. Retailing is a relatively larger proportion of the spread for beef than for pork but processing (meat packing) is larger for pork (*331*, p. 29). These differences are caused in part by the relative amount of services performed by packers and retailers. The retailer buys pork products such as hams, shoulders, picnics, bacon, and sausage which require comparatively little further cutting and trimming. Cutting, curing, and smoking pork add expense to the packer not incurred in other kinds of meat. Retailing of beef requires more labor because the retailer usually buys beef in halves or quarters which must be made into roasts, steaks, hamburger, and other cuts that are boned. Expenses for marketing livestock generally take a larger part of the total spread for lamb than for other species because of their lighter weight and the greater transportation expense caused by longer distances hauled.[15]

Labor is the largest cost item in the processing and distribution of meat products. Generally wages and salaries account for about half of meat packers' gross margins—the dif-

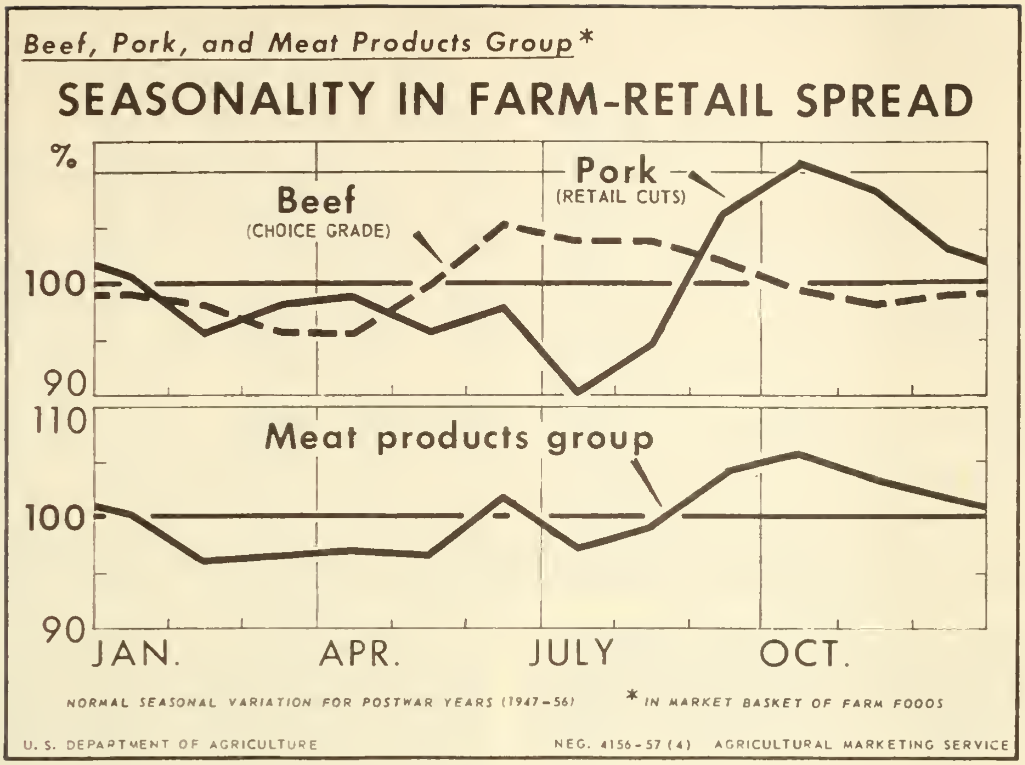

FIGURE 13

ference between cost of livestock and other materials and total sales. Studies of retailing meat indicate that up to two-thirds of retailing costs are wages and salaries. Average hourly earnings of workers in all parts of the meat trade have risen substantially since 1947, as have wages in most other industries. Average hourly earnings give some indication of trends in labor costs but do not measure the actual increase in labor costs because of increases in productivity. The farm-retail spread for meat products increased less than hourly earnings in meat packing and sausage industries and in retail-food stores, especially from 1952 to 1956 (table 11). These average hourly earnings series reflect changes in kind of labor and the effects of higher rates for overtime pay.

TABLE 11.—*Average hourly earnings in the meat packing industry and in retail food stores, and farm-retail spread for the meat products group of the market basket 1947–56*

(1947–49 = 100)

Year	Hourly earnings [1]			Farm-retail spread meat products
	Meat packing, wholesale	Sausage industry	Retail food stores	
1947	93	93	92	89
1948	102	101	101	106
1949	105	106	107	105
1950	110	111	111	107
1951	122	122	117	115
1952	132	129	122	128
1953	141	136	130	125
1954	144	143	136	125
1955	153	150	140	131
1956	163	159	143	131

[1] Based on annual average hourly earnings published by BLS.

In recent years, there has been a trend toward the guaranteed work week in the meat packing industry. The seasonality of supplies tends to cause work to be slack at some times of the year, but often employees are kept on the payroll because of the difficulty of hiring capable workers when they are needed. These factors make labor more of a fixed cost and less a variable cost and may increase the cost per unit when production is falling off.

Transportation

According to published indexes, freight rates for both livestock and meats were 60 percent higher in 1956 than in 1947 (table 4, p. 8). Much of the meat is now moved by truck; data are not available to show the change in truck

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[15] Components of the farm-retail spread for beef, pork, and lamb for the period 1954–56 are given for 6 illustrative examples in "Beef Marketing Margins and Costs," "Pork Marketing Margins and Costs," and "Lamb Marketing Costs and Margins," (*333, 336, 334*). These examples illustrate the relative importance of the various agencies but in addition they point up the variability in the distribution of the consumer's meat dollar among farmers and marketing agencies which result from differences in marketing channels used, location, time of marketing, and other factors.

TABLE 12.—*Costs and earnings of the meat packing industry as percentage of sales, 1947 and 1950–56* [1]

Item	Fiscal years (beginning Nov. 1 for most companies)							
	1947	1950	1951	1952	1953	1954	1955	1956
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Total sales	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cost of livestock and other raw materials	80.6	78.5	79.6	78.0	75.8	75.9	72.9	71.1
Gross margin	19.4	21.5	20.4	22.0	24.2	24.1	27.1	28.9
Operating expenses:								
Wages and salaries	9.0	10.3	9.8	10.9	11.8	12.0	13.0	13.8
Supplies and containers	2.8	3.5	3.5	3.8	3.9	4.0	4.2	4.5
Transportation	1.8	2.4	2.0	2.3	2.6	2.6	2.6	2.8
Taxes	1.4	1.0	1.1	1.0	1.2	1.0	1.5	1.6
Depreciation	.4	.5	.5	.5	.6	.6	.7	.7
Interest	.1	.2	.2	.2	.2	.2	.2	.2
Administration and other expenses	2.4	2.7	2.6	2.8	3.1	3.3	4.0	4.3
Total expense	17.9	20.6	19.7	21.5	23.4	23.7	26.2	27.9
Total earnings	1.5	.9	.7	.5	.8	.4	.9	1.0

[1] Based on data from "Financial Facts About the Meat Packing Industry, 1956," (*329*, p. 6). The meat packing industry covered by these reports is comparable insofar as possible with the Census Bureau's definition of "Meat Packing—Wholesale."

rates for these products. Transportation cost accounted for about 11 percent of the gross margin of the wholesale meat packing industry in 1955, compared with 10 percent in 1947 (table 12).

Meat Packing

Gross Margins. — Between 1947 and 1956, gross margins in the meatpacking industry increased from 19.4 percent to 28.9 percent of sales, according to an industry report (table 12). The meatpacker's gross margin covered the slaughtering and processing functions as well as the major share of the wholesaling function. Perhaps three-fourths or more of the wholesaling function is carried on by meat packers. The increase in the gross margin, especially since 1951, probably reflects both increased costs and lower average prices of livestock. (With the same gross margin in cents per unit, a lower average price paid for livestock would increase the gross margin as a percentage of sales.) Between 1951 and 1956, the total cost of livestock and other raw material purchased by the meatpacking industry declined about 18 percent while during the same period the total pounds of livestock purchased for slaughtering increased by about a third so that there was a substantial decrease in average price per pound paid for livestock.

During the last 5-year period, 1952–56, the gross margin of meat packers averaged 23 percent of sales (table 12). Wages and salaries accounted for 49 percent of the gross margin, supplies and containers about 16 percent, transportation about 10 percent, and taxes, 5 percent. Of the remainder, 2.8 percent of the gross margin was net profits (earnings) after taxes.

Profits.—In general, meat packers' profits in relation to sales are lower than profits in other food processing industries and manufacturing industries as a group, because of the high volume, rapid turnover, and relatively high valued products per unit (tables 6 and 7, pp. 10–11). They also tend to be more variable. Sales and profits of eight large meat packers in recent years show large year-to-year fluctuations (table 13). In the 5-year period 1952–56, meat packers' earnings averaged 21 cents per 100 pounds live weight, which about equaled the long-time average (*328*, p. 23). On a retail basis this would be less than ½ cent per pound.

TABLE 13.—*Sales and profits, meatpacking, 8 large firms, 1947–56* [1]

Year	Sales	Net profits less taxes—	
		Total	As percentage of sales [2]
	1,000 dollars	*1,000 dollars*	*Percent*
1947	6,408,089	77,730	1.21
1948	6,532,819	40,850	.63
1949	6,203,837	29,552	.48
1950	6,225,542	47,983	.77
1951	7,200,829	40,918	.57
1952	7,045,159	25,302	.36
1953	7,005,710	53,574	.76
1954	6,938,593	21,364	.31
1955	6,591,484	51,752	.79
1956	6,628,337	55,255	.83
Average	6,678,040	44,428	.67

[1] Based on financial statements of meatpacking companies.
[2] Net profits as percentage of stockholders' equity are given in table 7, p. 11.

TABLE 14.—*Meat packing industry: Establishments, employees, payroll, and value added, 1947 and 1954* [1]

Item	Unit	1947	1954	Ratio 1954/1947
Establishments	Number	2,154	2,367	1.10
Employees:				
All	Thousands	208.4	220.2	1.06
Production workers	do	167.1	167.8	1.00
Man-hours, production workers	Millions	376.0	354.8	.94
Average man-hours per production worker	Number	2,250	2,114	.94
Employees per establishment:				
All employees	do	96.8	93.0	.96
Production workers	do	77.6	70.9	.91
Payroll:				
All employees	Million dollars	623.1	943.0	1.51
Production workers	do	469.0	687.9	1.47
Wages and salaries per employee:				
All employees	Dollars	2,990	4,282	1.43
Production workers	do	2,807	4,100	1.46
Value added by manufacture	Million dollars	977.1	1,394.5	1.43
Payroll as percentage of value added:				
All employees	Percent	63.8	67.6	1.06
Production workers	do	48.0	49.3	1.03

[1] Includes plants classified in S. I. C. Code 2011. These are establishments engaged in slaughtering and meat packing, wholesale. Establishments engaged primarily in manufacturing sausage and meat specialties from purchased meats are not included.

Compiled from 1954 Census of Manufactures. Bulletin MC-20A, "Meat Products."

Industry changes, 1947-54.—According to the 1947 and 1954 Censuses of Manufactures, the number of employees in the industry increased slightly from 1947 to 1954 but total man-hours of production workers declined (table 14).[16] The volume of meat slaughtered in total pounds live weight by the wholesale meat packing industry increased by 17 percent between 1947 and 1954, according to an industry report. While this is not an exact measure of output directly comparable with the Census data, it does suggest that the quantity of meat processed per employee and per man-hour of production workers increased in this period.

Value added by manufacture in the two main groups of the meat packing industry totaled 1,772 million dollars in 1954, of which 1,394 million dollars was in plants classified as meat packing plants and 378 million in plants classified in prepared meats industry. The value added by manufacture is computed by subtracting from the value of shipments the cost of materials (including animals for slaughter), supplies, containers, fuel consumed, purchased electric energy and contract work. This statistic measures the approximate value created in the process of manufacture in a particular industry or group; it is the best available measure for comparing the relative economic importance of different groups. For example, value added in the prepared meats industry is a much larger proportion of value of products shipped than in meat packing because of the more extensive processing operations performed in the former industry. Value added in the prepared meats industry increased by 61 percent between 1947 and 1954, compared with 43 percent in meat packing. This larger rate of gain reflects in part the relative increase in production of processed meats.

Wholesaling

In 1954, 5,022 establishments (places of business) with one or more paid employees were engaged primarily in selling meat and meat products at wholesale, according to the 1954 Census of Business. This number included 4,357 merchant wholesalers (distributors buying and selling meat and meat products on their own accounts) with sales of 2.9 billion dollars and 665 packinghouse branches with sales of 2.7 billion dollars. Packinghouse branches are maintained by meat packers apart from packing plants primarily for marketing their products. Incorporated sales affiliates of meat packers, primarily engaged in selling the packers' products, are classified as packinghouse branches. Independent meat wholesalers buy meat from packing companies for resale and also do some slaughtering.

The number of meat wholesalers increased from 3,200 in 1948 to 4,357 in 1954. Dollar sales in 1954 were 45 percent over 1948. Operating expenses including payroll but not the cost of goods sold nor withdrawals for compensation of proprietor-owners of unincorporated businesses, amounted to 10.3 percent of sales in 1954 but only 7.5 percent of sales in 1948.

In contrast to the increase in number of meat wholesalers is the decline in the number of sales branches or branch houses of meat packers from 753 in 1948 to 665 in 1954, which continued a longtime trend. The dollar sales volume of packinghouse branches was slightly less in 1954 than in 1948. Operating expenses of these establishments increased from 4.2 percent of sales in 1948 to 6.7 percent of sales in 1954. Average percentages are larger for independent meat packers because of the slaughtering done by some of these wholesalers.

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[16] Includes those plants classified in S. I. C. Code 2011—establishments primarily engaged in slaughtering. Those engaged primarily in manufacturing sausage and meat specialties from purchased meats but performing no slaughtering operation on the premises are classified in S. I. C. Code 2013—prepared meats.

Retailing

During recent years, retailing of meat has become increasingly a self-service operation. The rapid increase in supermarkets and the accompanying growth in average volume per store have accentuated this trend. These changes have made possible more efficient utilization of labor and equipment in retail stores. Along with these changes, mass procurement by food chains and cooperative wholesale-retail groups has increased the efficiency of transfer of meat from the packinghouse to the retail outlet.

The production of quick frozen red meats has increased rapidly in recent years although frozen meats still are a small part of the total meat production. The expansion of frozen meats may affect the costs and operations of both meat packers and retailers. The cutting and boning now done in retail stores would be shifted to the processing plants which would increase the services performed in central plants relative to that in retail stores.

Self-Service Stores.—An industry source estimated that in 1954 self-service meat departments sold around 40 percent of the meat bought in retail stores. The estimate also was made that in a 7-year period up to mid-1955 the number of retail food stores with 100 percent self-service meat departments rose from 178 to 11,500.[17] Other trade surveys indicate that the number of stores with self-service meat departments and the proportion of meat sold in these stores has continued to increase since 1955.

Meat markets are no longer a major outlet for meats. Retail stores classified as meat markets accounted for 5 percent of total retail food store sales in 1954, according to the Census of Business. This compares with 6 percent in 1948. A change in the classification of meat markets in the 1954 Census, however, increased the number relative to the type of classification used in 1948. Therefore, the actual decline in importance of meat markets as an outlet for meats was greater than that indicated from these census data. These stores for the most part are small single-unit firms. Average annual sales per meat market were $85,000 per store in 1954 compared with an average of $123,000 per grocery store.

The shifts to self-service meat departments have probably led to relatively lower average costs in retailing meat. This may have resulted more from the increased volume of sales associated with supermarket operations rather than the difference in costs between self-service and service meat departments. Generally, the higher the volume of sales, the lower the cost per pound. In one study, the relative efficiency of 26 salesman-service and 23 self-service meat department was studied.[18] Four cost factors were studied,—labor, paper supplies, square feet of floor space, and investment in equipment. Labor costs were less in self-service departments; investment in equipment and paper supplies averaged higher in the self-service departments. When dollar costs of labor, equipment, floor space (rent), and paper supplies were combined, no significant differences between the two methods were found for a given volume of sales.

Gross Margins in Meat Retailing.—Data available from various trade associations generally indicate a gross margin in the meat department of retail food stores of around 18 to 20 percent of sales. Gross margins of meat departments usually average less per dollar of sales than margins in produce departments but somewhat higher than the average gross margin in the entire store. In general, the average gross margin *per pound* in retailing meat is greater than for most other food products but, because of the relatively higher valued product, the percentage margin does not greatly exceed the average for all items. As indicated earlier, many operations are required in retailing meat, especially fresh beef. Large wholesale carcasses and cuts of meats are converted into smaller cuts suitable for the retail trade.

The average cost of retailing meat in 1950 for 85 selected stores in 3 different cities averaged about 10 cents per pound, wholesale weight (table 15). Wages and salaries comprised about two-thirds of the total cost. Rent was the next high single cost item, taking

TABLE 5.—*Average cost for retailing a pound of meat, wholesale weight, in 85 selected stores in 3 cities, 1950* [1]

Item	Cost	Percentage of total
	Cents	*Percent*
Wages and salaries	6.5	66.3
Rent	.8	8.2
Other:		
Electricity, heat, water, and ice	.5	4.7
Licenses and insurance	.2	2.4
Depreciation	.3	3.0
Wrapping supplies	.4	4.2
Maintenance	.2	2.0
Advertising	.2	2.4
Miscellaneous	.7	6.8
Total other	2.5	25.5
Total	9.8	100.0

[1] Compiled from "Costs of Retailing Meats in Relation to Volume," (*327*, p. 5).

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[17] "Food for Thought," American Meat Institute, Sept. 1955, p. 4.

[18] Wiegmann, F. H.; Clifton, E. S., and Shepherd, G. S. "Which Costs Less—Self-service or salesman-service meat retailing," Iowa Farm Science. Iowa State College, Aug. 1953, pp. 23–24 (vol. 8 No. 2).

about 8 percent of the total operating cost. The remaining expense items—about 25 percent of the total operating cost—included payments for light, heat and power, licenses and insurance, depreciation of equipment, including delivery trucks, containers and wrapping supplies, maintenance, advertising, and other miscellaneous items.

DAIRY PRODUCTS

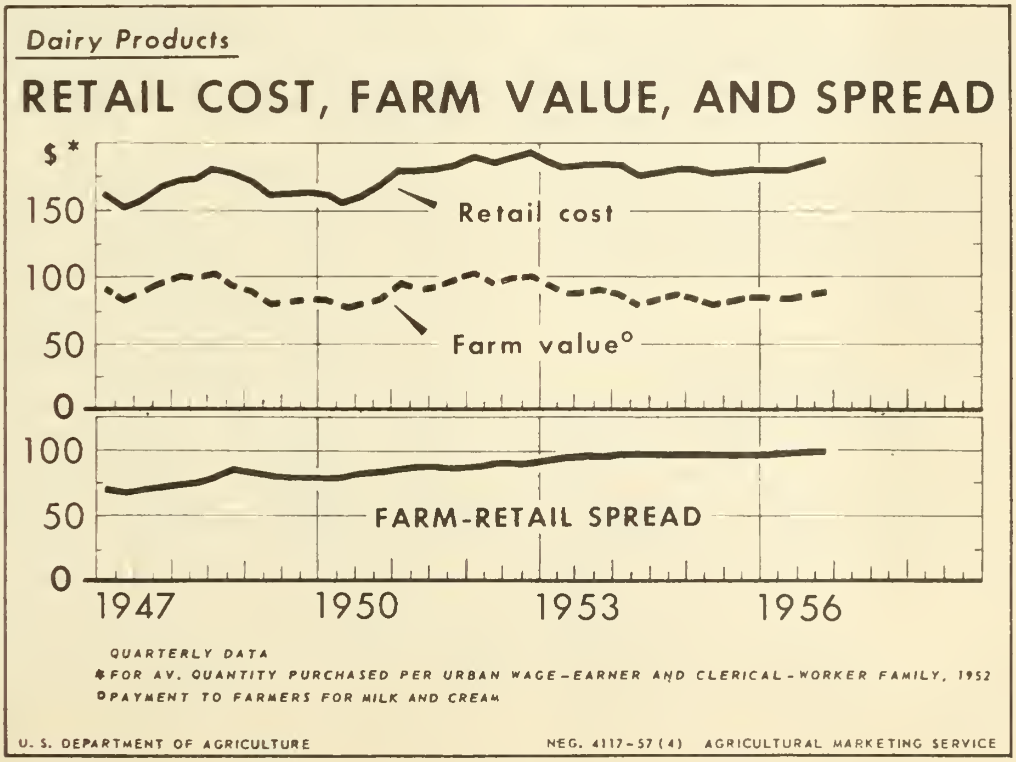
Dairy products accounted for 19 percent of the retail cost of the market basket of farm foods in 1956. Their retail cost ranked third among the product groups—following only meat products and fruits and vegetables. They account for a slightly larger share—22 percent—of the farm value of the market basket and were second only to the meat products group.

TRENDS IN RETAIL COST, FARM VALUE, AND SPREAD

Prices of dairy products, both at retail and farm levels, have followed much the same trends as prices of other farm products (tables 54–60, pp. 106–111). Like those of other farm products, prices of dairy products have been markedly sensitive to changes in consumer demand, in part because of the difficulty of adjusting supply and also because of the relatively inelastic demand for dairy products. The farm-retail spread for dairy products has been more stable than either the farm value or retail cost and has varied closely with the spread for the market basket.

The farm-retail spread for the dairy products group rose less than the retail cost and farm value during the upward movement in prices that ended in 1920, and it fell less during the decline of 1921-22. All rose slightly in 1923 and were relatively stable during the remainder of the 1920's. The spread again declined less than the farm value and retail cost during the early 1930's. It advanced less rapidly during the middle 1930's but did not decline with the farm value and retail cost in the late 1930's. In 1940-42, the farm value increased much more rapidly than the spread. Both were stable during 1943-45. The Federal Government paid subsidies to producers of milk and to some processors and handlers of dairy products during 1943-46. Subsidies were paid instead of granting increases in prices.

The farm value of dairy products and the farm-retail spread rose rapidly following the removal of price controls in 1946 (table 55, p. 107). Both declined in 1949 and in the first half of 1950, but the spread declined less than the farm value. From mid-1950 to the first quarter of 1952, when it reached its post-World War II peak, the farm value increased 31 percent and the spread 12 percent. Following this upward movement, the trend in the farm value was downward until mid-1955. But the spread increased almost steadily until the first quarter of 1954. A large proportion of this increase



QUARTERLY DATA

*FOR AV. QUANTITY PURCHASED PER URBAN WAGE-EARNER AND CLERICAL-WORKER FAMILY, 1952

°PAYMENT TO FARMERS FOR MILK AND CREAM

U. S. DEPARTMENT OF AGRICULTURE NEG. 4117-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 14

TABLE 16.—*Raw material and operating costs, net sales, and net margin per 100 pounds of milk processed for group of milk processor-distributor firms, East, Midwest, and South, 1952–56*

Item	1952	1953	1954	1955	1956
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Net sales	11.32	11.12	10.69	10.95	11.22
Cost of raw materials:					
Raw milk and cream	5.85	5.43	5.07	5.12	5.30
Other	.86	.90	.87	.93	.88
Total	6.71	6.33	5.94	6.05	6.18
Gross margin	4.61	4.79	4.75	4.90	5.04
Operating costs:					
Salaries, wages, and commissions [1]	2.15	2.19	2.21	2.28	2.43
Containers	.60	.62	.65	.70	.72
Operating supplies	.30	.32	.35	.32	.28
Repairs, rent, and depreciation	.50	.52	.57	.60	.64
Taxes	.06	.06	.06	.06	.05
Insurance	.02	.02	.03	.04	.04
Services	.16	.19	.19	.18	.17
Advertising	.15	.15	.16	.18	.19
General	.15	.13	.13	.14	.16
Total	4.09	4.20	4.35	4.50	4.68
Net margin [2]	.52	.59	.40	.40	.36
	Number	*Number*	*Number*	*Number*	*Number*
Firms reporting	43	51	75	83	80

[1] Includes Social Security taxes and employee "fringe" benefits.

[2] Net returns to owners before income taxes.

was in the first half of 1953 when the farm value fell sharply. Since the first quarter of 1954 the spread has been relatively stable (fig. 14). In 1956, it averaged 27 percent more than in 1947-49, the farm value was down about 6 percent, and the retail cost was up about 10 percent. The increase in the spread was relatively larger than the average for all products in the market basket, the decrease in the farm value was less than the average, and the rise in the retail cost of the dairy products was more than the average.

FACTORS CAUSING INCREASE IN MARKETING SPREAD

Cost Rates.—Increases in unit processing and distributing costs have accounted for most of the widening in the farm-retail spread for dairy products since World War II. Average hourly earnings of employees in plants manufacturing dairy products were nearly 50 percent higher in 1956 than in 1947-49. It is quite unlikely that the productivity of labor has improved enough to offset the advance in hourly earnings. Establishments that distribute milk and cream for fluid consumption are included by the Bureau of Labor Statistics in the retail food and liquor-store group, so data relating specifically to employees of milk dealers are not available. Data obtained from a group of processor-distributor firms indicate that labor costs per 100 pounds of milk processed were 13 percent higher in 1956 than in 1952 (table 16).

Advances in transportation charges by railroads and trucking companies have added to the marketing spread. Long-haul transportation charges, however, are a smaller part of the spread for most dairy products than for many other farm products. Fluid milk and ice cream generally are not shipped long distances. Butter, cheese, and the dry milk products have a comparatively high value per pound, so the transportation charge is small relative to the retail price. Transportation costs make up a larger part of the marketing spreads for evaporated and condensed milk.

Increases in prices of equipment and supplies, rises in building costs, advertising costs, taxes, rents, and other charges have affected marketing costs for dairy products, as they have those for other food products. Wholesale price indexes published by the BLS indicate that several of the larger items of expense have increased. According to these indexes, prices of glass containers in 1956 were about 50 percent higher than the average for 1947-49, container paperboard prices were up 24 percent, and metal containers were 42 percent higher (table 5, p. 9). Prices of fuels used in diary plants, mainly for providing hot water and steam, generally were up, but electricity, the motive power in the majority of dairy plants, was a little lower. Costs of operating trucks used in delivering milk and other dairy products have increased considerably. New trucks cost a fourth more in 1956 than in 1947-49. Costs of repairs, tires, tubes, and gasoline have all increased.

The Agricultural Marketing Service has obtained data relating to net sales, raw material and operating costs, and net margins for a group of firms engaged primarily in processing and distributing fresh milk (table 16). These data show that most types of expense have increased since 1952, but the relative increase has been largest for the group that includes costs of repairs, rent, and depreciation. The large increase for this group reflects not only higher cost of plant, equipment, and repairs, but also the use of more mechanical equipment and improvements in the layout of plants. Data for these firms are published quarterly by the AMS (*155*).

Profits before payments of taxes on income probably have been somewhat larger for most dairy products firms in recent years than before World War II. Annual average profits before taxes of 10 of the leading companies averaged 4.9 to 5.3 percent of sales in 1953–56 compared with the 1935–39 average of 3.7 percent, but profits after taxes averaged 2.5 percent of sales compared with 3.1 percent in 1935–39. Their profits after taxes amounted to 11.8 percent of stockholders' equity in 1953–56, compared with 7.9 percent in 1935–39 (tables 6 and 7, pp. 10–11).

Product Changes.—Processors have improved the quality of dairy products and have made changes in packaging intended to preserve quality and make the products more convenient for consumers. Many of these changes have tended to increase the farm-retail spread.

Pasteurization of fresh milk became much more common during the 1920's and 1930's. By 1940, few communities were without a supply of pasteurized milk. Most plants now homogenize part or all of the milk they prepare for fluid consumption and many add vitamin D to the milk. Laws and regulations of State and local governments often require dealers to be more careful in handling milk now than they did some years ago. Many plants now pasteurize milk used to make cheese and cream used for butter to improve the quality of these products. Many ice cream manufacturers pasteurize and homogenize ice cream mix before freezing it. Evaporated milk generally is homogenized and fortified with vitamin D. Some manufacturers have improved the quality of their products by using better raw materials, by improving the sanitary conditions of their plants, and by other means. Grading and standardization have become more widespread. Often these changes increased costs.

Marked changes have occurred in the packaging of butter and cheese. Today most butter sold to consumers is packed in cartons. The sale of four quarter-pounds to a package rather than solid pounds has become common. Much of the cheese bought today is sold in cartons, or cellophane packages, many of which contain less than a pound of cheese.

As packaging increased, advertising increased. Brand names and trademarks appeared on the packages and were advertised in newspapers, magazines, and other media. Large dairy products companies with national markets were formed in the 1920's. Earlier much of the butter and cheese was bought in bulk by wholesalers and retailers and was not labeled. Expenditures for advertising became a significant element of cost during the 1920's.

MEASURES TO REDUCE COSTS

Milk dealers and manufacturers of dairy products have done several things to hold down costs. The less frequent delivery of milk to homes is one of the most significant of these innovations. Milk dealers continued the practices of every-other-day delivery, adopted during World War II, and in recent years most have reduced delivery to 3 days a week. Costs of assembling milk usually have been reduced where tank trucks have replaced hauling milk in cans. Many plants now have continuous flow pasteurizers; most ice cream plants have continuous freezers, and some creameries have continuous churns. Modern plants generally use machines to package butter, cheese, and ice cream. Plant layouts have been improved and materials-handling equipment installed. These improvements are only the more outstanding

TABLE 17.—*Number of plants producing principal manufactured dairy products, total production, and average production per plant, 1940, 1950, and 1955*

Year	American cheese	Creamery butter	Evaporated milk (case goods)	Ice cream (wholesale)	Nonfat dry milk		
					Roller	Spray	Total
				PLANTS [1]			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
1940	2,300	4,692	142	4,191	----	----	273
1950	1,620	3,060	122	3,269	288	225	----
1955	1,356	2,342	94	3,008	214	306	----
				TOTAL PRODUCTION			
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 gallons*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1940	602,790	1,836,826	2,464,668	287,099	----	----	321,843
1950	892,706	1,386,408	2,882,475	505,659	258,005	623,487	881,492
1955	1,002,754	1,386,158	2,579,831	574,387	197,630	1,212,404	1,410,034
				AVERAGE PRODUCTION PER PLANT			
1940	262	391	17,357	69	----	----	1,179
1950	551	453	23,627	155	896	2,771	----
1955	739	592	27,445	191	924	3,962	----

[1] Plants reporting production of specified product; totals for individual products cannot be added without duplication as some plants produce more than one product. Some plants have both spray and roller equipment for drying milk.

of those that have been made to reduce costs.

The increase in the quantity of milk sold in retail stores relative to that delivered to homes has tended to hold down the average farm-retail spread. In most markets the spread is smaller on milk sold in stores than on that delivered to homes.

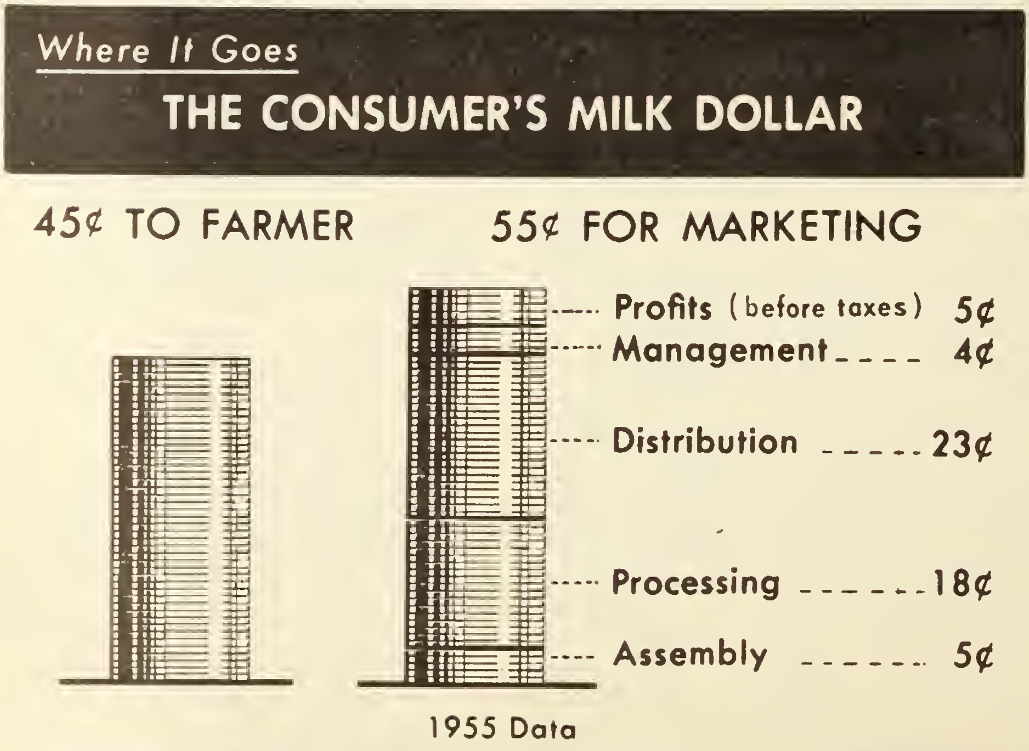
The average output of plants manufacturing the principal manufactured products has increased substantially since 1940 and even since 1950 (table 17). This increase has reduced costs of production through economies of scale and by fuller utilization of capacity. Output per plant has been increased by building larger plants, by enlarging old plants, and by alteration in the size and type of equipment. Some increase in average outputs resulted from concentrating production in fewer plants. Fewer plants were manufacturing each of the principal dairy products except nonfat dry milk (spray process) in 1955 than in 1950 or 1940 (table 17). Total production doubled between 1950 and 1955, so average output per plant increased 43 percent in spite of an increase in the number of plants.

The number of large fluid milk plants has increased in recent years, and economies of scale probably have been obtained. The growth in population of most urban centers and the expansion of market areas have made larger plants feasible for many firms. The distance that consumer packaged milk is regularly distributed has increased greatly. Paper containers and improved refrigeration in trucks have made shipments extending up to several hundred miles a regular practice for some plants.

Direct purchasing of dairy products by retailers from manufacturers rather than wholesalers or jobbers increased rapidly in the 1920's and more slowly afterward. The large dairy products firms which arose during the 1920's both manufactured and distributed products. They operated warehouses in the larger market areas from which they distributed butter, cheese, and other dairy products to retail stores. Producers' cooperatives formed large marketing organizations which performed wholesaling and jobbing functions. The growth of chain retail food stores was another factor in this development. This integration in the marketing process may have tended to reduce marketing costs.

FLUID MILK

Trends in the retail price, farm value, and farm-retail spread for fluid milk have been much like those described for the dairy products group (tables 54, 55, and 60). This similarity is partly because fluid milk accounts for approximately three-fifths of each of the three group totals—retail cost, farm value, and spread—and partly because prices of milk for fluid consumption and for manufactured dairy products tend to vary together. The farm value of fluid (or fresh) milk, has been a trifle more



U.S. DEPARTMENT OF AGRICULTURE NEG. 3415-56 (8) AGRICULTURAL MARKETING SERVICE

FIGURE 15

stable than that of the dairy products group, and it has declined less in recent years. The farm-retail spread for fluid milk generally has moved within a narrower range than the group spread but in recent years it has increased more than the group total.

Both the retail price and farm value of fresh milk have a distinct seasonal pattern. The production of milk reaches a peak in most areas during the spring when pastures are lush. The farm value declines when production increases and it recovers in the second half of the year when production decreases. The retail price generally changes when the farm value does or shortly afterward.

Farmers received about 45 percent of the retail price that urban consumers paid for fluid milk in 1955 or, in other words, they received 45 cents of the dollar consumers spent for milk (fig. 15). Marketing agencies received the remaining 55 percent for assembling, processing, selling, and delivering milk.

The average charge for assembling milk at processing plants in 1955 is estimated at 5 percent of the retail price (fig. 15). This 5 percent includes the cost of hauling milk from farms (whether paid by farmer or receiver) and receiving it at plants and handling charges of country receiving plants. Charges for hauling account for most of the 5 percent.

The cost of processing and bottling represented about 18 percent of the retail price, and about one-third of the spread. Wages and salaries made up about a third of this cost and containers accounted for another third. Depreciation, repairs, insurance, property taxes, interest, and rent accounted for one-fourth of the processing cost. The remainder included costs of electric power, fuel, water, various supplies, and miscellaneous expenses.

Costs of selling and delivering milk accounted for about 23 percent of the retail price in 1955, and two-fifths of the spread. This includes cost of the functions performed by retail stores as well as of those performed by milk dealers. Wages and salaries made up about 70 percent of the total selling and delivery cost. Expenses of operating delivery trucks were the next largest group.

Management expenses which included salaries of managers and of accountants, stenographers, and other office workers and various expenses not connected specifically with any one function accounted for 4 percent of the retail price (fig. 15).

When costs of assembly, processing, selling, and distribution were grouped by type of expense, payroll costs made up 25 percent of the retail price (fig. 16). In addition to wages and salaries, these costs included payroll taxes, employers' payments to pension funds, and costs of other "fringe benefits." Depreciation, rent, insurance, property taxes, and other expenses connected with property accounted for 9 percent, containers for 6 percent, and other purchased goods and services for 6 percent. Cost of advertising and other sales promotion and miscellaneous costs together amounted to 4 percent of the retail price.

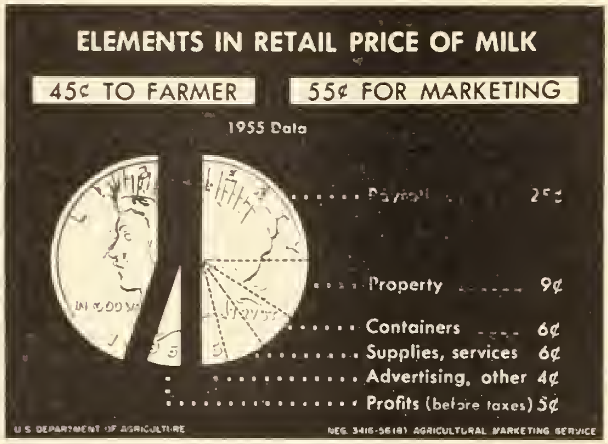


FIGURE 16

The combined profit (before payment of taxes on income) that milk dealers and retail stores made on fluid milk averaged approximately 5 percent of the retail price in 1955. Income taxes amounted to more than 50 percent of net income for some of the larger dairy products corporations that market fluid milk.

MANUFACTURED DAIRY PRODUCTS

The farm values of manufactured dairy products generally follow the same pattern, both in seasonal fluctuations and longer term movements. Seasonal increases in production weaken prices of milk and cream in the spring and early summer and decreases strengthen prices in the late summer and fall. Retail prices of most of the principal manufactured dairy products are more stable than the farm values. Consequently, the farm-retail spreads tend to widen slightly during the spring and early summer and contract later in the year. This tendency often is obscured, however, by changes in marketing costs or other longer term factors affecting the spread.

Butter.—The farm value and retail price of butter were compared with the price of 92-score butter in the Chicago wholesale market in order to learn how the farm-retail spread is divided between manufacturers and distributors (table 18). All creameries, of course, do not sell their butter in the Chicago market, but prices at other wholesale markets are closely related to the Chicago price and do not differ greatly from it, as transportation costs are relatively small for butter. The spread between the farm value and the Chicago wholesale price contains some transportation charges and sell-

TABLE 18.—*Retail and wholesale prices of principal manufactured dairy products, farm values, and marketing spreads, 1947–56*

AMERICAN PROCESS CHEESE

Year	United States average retail price per pound	Processed loaf, wholesale price per pound, Chicago	Farm value of equivalent quantity of milk	Farm-retail spread	Wholesale-retail spead	Farm-wholesale spread	Farm value as a percentage of retail price
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1950 [1]	51.1	35.6	27.4	23.7	15.5	8.2	54
1951	58.3	42.8	33.7	24.6	15.5	9.1	58
1952	59.9	44.0	35.2	24.7	15.9	8.8	59
1953	59.8	40.7	30.7	29.1	19.1	10.0	51
1954	57.6	36.5	27.7	29.9	21.1	8.8	48
1955	57.7	36.4	27.7	30.0	21.3	8.7	48
1956	57.2	36.3	28.5	28.7	20.9	7.8	50
1957							

CREAMERY BUTTER

Year	United States average retail price per pound	Wholesale price per pound, 92 score, Chicago	Farm value of equivalent quantity of milk and cream	Farm-retail spread	Wholesale-retail spread	Farm-wholesale spread	Farm value as a percentage of retail price
1947	80.0	70.6	61.0	19.0	9.4	9.6	76
1948	86.2	75.2	64.9	21.3	11.0	10.3	75
1949	72.1	61.1	51.9	20.2	11.0	9.2	72
1950	72.3	61.7	52.2	20.1	10.6	9.5	72
1951	81.4	69.2	60.6	21.4	12.2	9.2	74
1952	85.0	72.2	62.6	22.4	12.8	9.6	74
1953	79.0	65.9	56.7	22.3	13.1	9.2	72
1954	72.4	59.7	50.4	22.0	12.7	9.3	70
1955	70.9	57.4	49.2	29.7	13.5	8.2	69
1956	72.1	59.2	50.9	21.2	12.9	8.3	71
1957							

EVAPORATED MILK

Year	United States average retail price per 14½-ounce can	Wholesale price per 14½-ounce can [2]	Farm value of equivalent quantity of milk	Farm-retail spread	Wholesale-retail spread	Farm-wholesale spread	Farm value as a percentage of retail price
1947	13.1	11.3	7.2	5.9	1.8	4.1	55
1948	14.8	13.0	8.2	6.6	1.8	4.8	55
1949	13.1	10.9	5.9	7.2	2.2	5.0	45
1950	12.6	10.9	6.0	6.6	1.7	4.9	48
1951	14.4	12.7	7.4	7.0	1.7	5.3	51
1952	14.9	13.2	7.9	7.0	1.7	5.3	53
1953	14.6	12.3	6.6	8.0	2.3	5.7	45
1954	13.9	11.6	6.0	7.9	2.3	5.6	43
1955	13.7	11.6	6.0	7.7	2.1	5 6	44
1956	14.0	12.1	6.2	7.8	1.9	5.9	44
1957							

[1] Data not available before May 1949.

[2] United States average manufacturers' selling price per case converted to price per 14½-ounce can.

ing costs, but it mainly represents the manufacturer's gross margin. The spread between the wholesale and retail prices represents mainly the wholesaler's and retailer's combined gross margin. Many retail stores, of course, buy directly from the butter manufacturers rather than from wholesalers.

The increase in the farm-retail spread since World War II has been in the wholesale-retail spread. This segment increased 3.5 cents between 1947 and 1956 but the farm-wholesale spread decreased 1.3 cents, so the total spread increased only 2.2 cents. The farm-wholesale spread was 39 percent of the total spread in 1956 and the wholesale-retail spread was 61 percent of the total. The farm-retail spread has increased relatively less since 1947-49 for butter than for any of the other principal dairy products. In 1956, it was 5 percent larger than the 1947-49 average, compared with an increase of 27 percent for the dairy products group.

American Process Cheese.—Retail prices for this product have been available only since May 1949. The farm-retail spread increased sharply during the second half of 1952 and the first half of 1953. In 1956 it was 20 percent wider than in 1950. This was a larger increase than that made by any of the other principal manufactured products. Between 1950 and 1956, the wholesale-retail spread increased 5.4 cents, but the farm-wholesale spread decreased 0.4 cent (table 18). In 1956, the farm-wholesale segment made up 27 percent of the total spread and the wholesale-retail segment 73 percent.

Evaporated Milk.—The farm-retail spread for evaporated milk was 18 percent wider in 1956 than in 1947-49. The farm-wholesale segment accounted for this increase, as the wholesale-retail segment was the same as the 1947-49 average. The farm-wholesale segment comprised 76 percent of the total spread in 1956 and the wholesale-retail segment 24 percent. The cost of tin cans, labels, shipping containers, and other packaging material amounted to about two-fifths of the manufacturer's gross margin, according to a study made a few years ago by two private organizations (*60*). The cost of tin cans has increased more than 40 percent since 1947–49 (table 5, p. 9).

Ice Cream.—The farm-retail spread is larger relative to the retail price for ice cream than for other dairy products. One reason for the wider spread is that milk products are only part of the ingredients. The cost of the raw materials other than milk products is in the farm-retail spread, as the farm value reported here is only for milk and cream. According to a recent study, milk products accounted for an average of 28 percent of ice cream manufacturers' total expense, sugar for 5 percent, and other ingredients (flavors, fruits, nuts, etc.) for 10 percent (*62*). Thus, raw materials accounted for 43 percent of the manufacturers' total expense. According to the same study, manufacturing costs (plant labor, supplies, depreciation, etc.) accounted for about 22 percent of the manufacturers' total expense, distribution costs (selling, delivery, etc.) for 29 percent, administrative costs for about 6 percent.

Retail prices of ice cream first became available in December 1950. The annual average farm-retail spread increased from 23.5 cents per pint in 1951 to 24.2 cents in 1954, then declined to 23.4 cents in 1956.

POULTRY AND EGGS

Poultry and eggs accounted for 10 percent of the retail cost of the market basket of farm foods in 1956 and for 16 percent of the total farm value. The farm-retail spread relative to the retail cost was smaller for this group of products than for any other product group.

Eggs accounted for slightly less than three-fifths of the retail cost of the poultry and eggs group in 1956 and poultry for a little more than two-fifths. Eggs provide slightly more than three-fifths of the total farm value of the group and poultry slightly less than two-fifths.

EGGS

Longer term movements in the retail price and farm value of eggs have been much like those in the retail cost and farm value of the market basket (table 63, p. 114). Both have been strongly affected by changes in the general price level and consumer demand. The spread between the retail price and farm value likewise has been affected by these influences but it has not varied as widely as the farm value.

In 1947 and 1948, prices farmers received for eggs and the farm-retail spread increased substantially (fig. 17). Prices were lower in 1949 and 1950 but the spread did not decrease. In 1951 prices again rose to the 1948 level and the spread increased further. Since 1951 prices have fluctuated widely but the annual average farm value has not been as high as in that year. In 1956 it was 17 percent below the 1947–49 average. The annual average farm-retail spread was smaller in 1953 than in any year since 1947 although farm prices of eggs averaged near the record annual average established in 1948 and again in 1951. The spread widened in 1954 but decreased in 1955 and 1956. The 1956 average was 4 percent smaller than the 1947–49 average and 12 percent smaller than the record spread in 1952.

Factors Affecting the Spread.—The retail price, price received by farmers, and farm-retail spread generally vary widely during the year. Each usually rises to a peak in the fall,

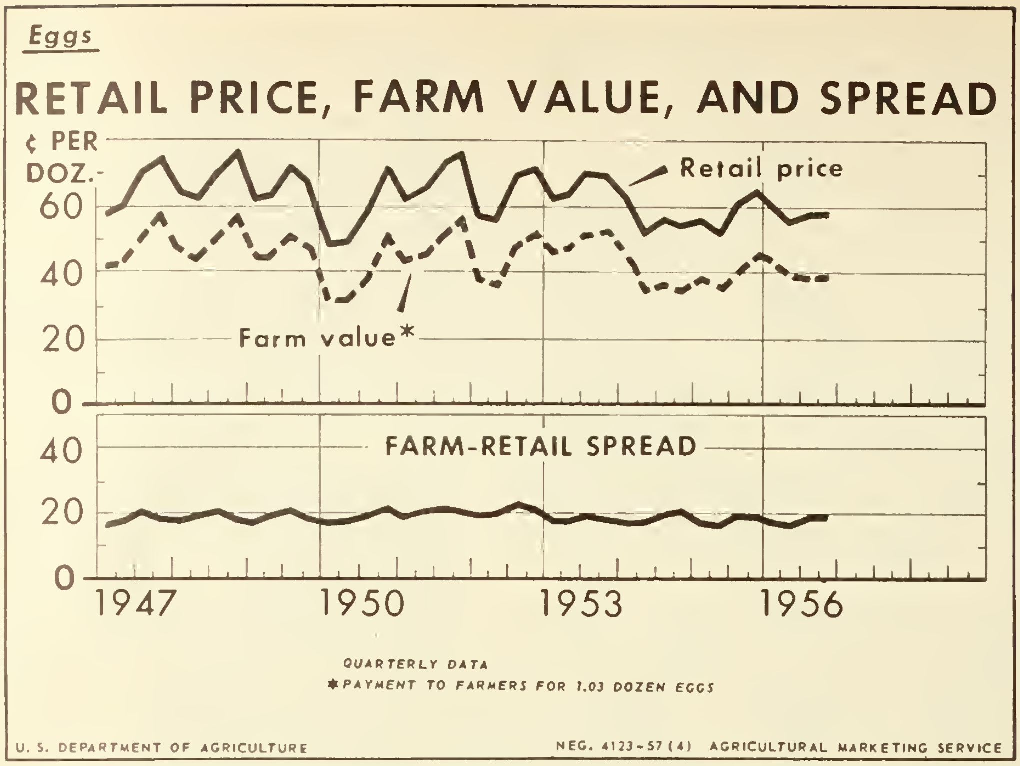


Figure 17

then declines sharply. Changes within the year generally are larger than year-to-year changes. Seasonal changes in the farm price and retail price reflect changes in the volume of production, which increases during the winter and spring and decreases during the summer and early fall. The retail price and farm price tend to vary closely together. The seasonal movement in the spread is in the same direction as that in the retail price and farm price, but the spread advances more rapidly in the first part of the year and declines more rapidly in the final quarter. It generally does not vary as widely as the retail price and farm price.

The widening of the spread when the farm price of eggs increases may indicate that many egg marketing agencies take a percentage markup. Other apparent explanations for the widening of the spread are: (1) The average quality of eggs marketed by farmers generally declines during the summer and costs of maintaining quality increase, (2) the reduction in the volume of eggs marketed during the summer means that the fixed charges of marketing firms must be borne by a smaller volume of eggs.

Changes in cost, of course, affect the spread. Data relating to wages paid employees of firms specializing in the marketing of eggs are not available but no doubt they have risen as in other industries. Costs of egg cases, fillers, cartons, and other items bought by these firms have increased in recent years. Increases in freight rates of trucking companies have added to marketing costs.

The absence of any upward trend since 1952 in the farm-retail spread in spite of these increases apparently indicates improvement in efficiency and possibly a tighter competitive situation. Costs may have been reduced through bypassing certain types of handlers in marketing a growing proportion of the production.

Specialization in the production of eggs and increased output have made economically feasible large-scale plants, extensively equipped with mechanical egg-handling equipment. The decrease in seasonal variation in the production of eggs has reduced storage costs. The proportion of the total egg production that is near large cities has increased, thus shortening shipping distances.

Components of the Spread.—In recent years the AMS has conducted several studies to learn how the farm-retail spread is distributed among the various marketing agencies and among different types of expense. In 1956, the AMS collected information regarding eggs shipped by midwestern assemblers and sold to consumers by retail stores in a large distant city. Consumers paid about 56 cents per dozen for the large Grade A eggs. The retail price was shared by farmers and marketing agencies as follows:

	Cents
Retail-store gross margin	10.0
City distributor's gross margin	3.3
Country assembly plant gross margin	8.2
Price received by farmers	34.5
Total (retail price)	56.0

The price received by the country plant was for eggs delivered to the city in which the retail store was located. Transportation costs from the plant to the city market were about 1 cent per dozen and were a part of the plant's gross margin, which also included costs of procurement, candling, and cartoning (*348*).

A survey conducted earlier provided information concerning the gross margins of assemblers and wholesalers (*338*). According to this survey the typical gross margin of midwestern assemblers who shipped uncartoned eggs to eastern markets in 1954 averaged about 9.5 cents per dozen and was composed of the following elements:

	Cents per dozen
Freight to eastern markets	2.7
Labor	.7
Cases, fillers, and other supplies	2.0
Payments to buyers and independent dealers	2.4
Trucking from buying stations	.6
Overhead, miscellaneous costs, and profit	1.1
Total	9.5

The payments made to buyers at buying stations and independent dealers were for collecting eggs from farms, grading, and handling.

The typical gross margin for wholesalers in an eastern city who candled and cartoned eggs was estimated at 6.8 cents, made up of the following items:

	Cents per dozen
Labor	2.5
Cartons	2.2
Inspection	.2
Miscellaneous costs	.6
Overhead and profit	1.3
Total	6.8

FRYING CHICKENS

Frying chickens (or broilers as they are commonly called in producing areas) have in recent years made up about three-fifths of the volume of poultry marketed. Production of fryers has increased steadily since World War II.

Monthly average prices producers received for frying chickens have varied as much as 5 to 10 cents during each calendar year since 1949. The largest year-to-year change in the annual average farm value was 7.6 cents between 1955 and 1956 (table 62, p. 113, and fig. 18). (The farm value is the farm price per pound multiplied by 1.37, which is equivalent to a ready-to-cook yield of 73 percent of live weight). Prices farmers received for frying chickens declined in the fourth quarter of each year and generally averaged lower in the final quarter than in the other three.

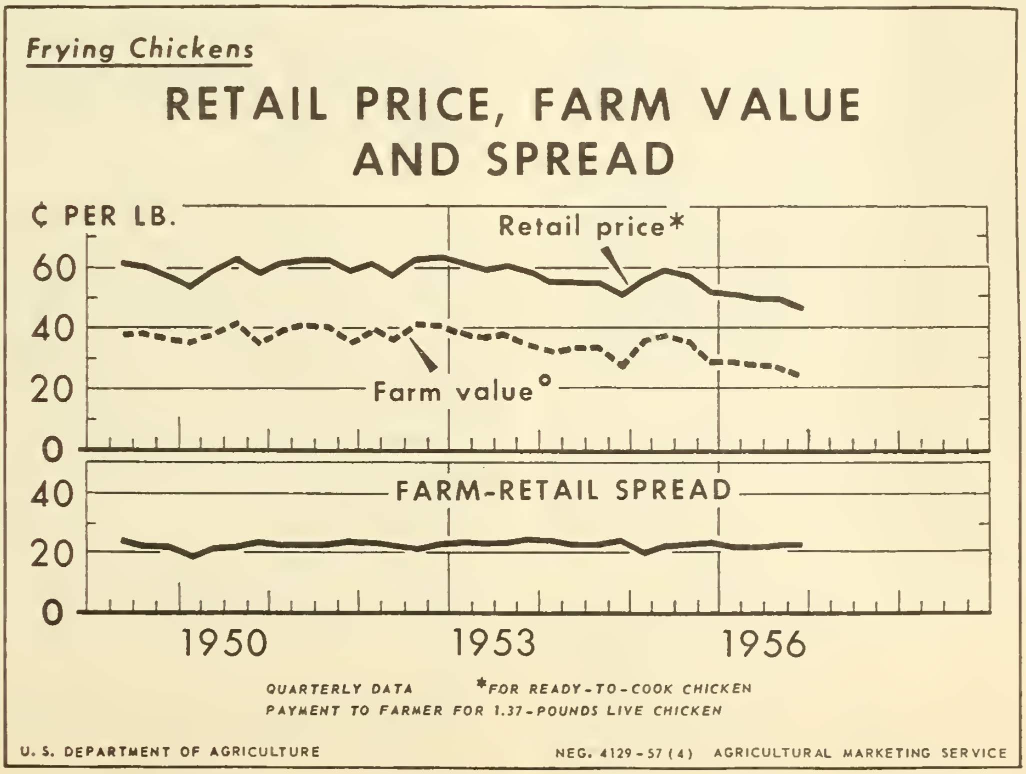


FIGURE 18

Wide variations within the calendar year also are common in the farm-retail spread. During the period for which data are available (since April 1949) month-to-month changes in the spread generally were in the opposite direction from changes in the price received by farmers. Spreads generally were at or near the maximum for the year in the final quarter, when the farm price usually was at or near the lowest level. Absolute changes in the spreads were not as large as those in the farm value but in percentage terms they sometimes were larger. Usually the retail price moved in the same direction as the farm value but generally it increased or decreased less, causing the spread to vary inversely with the farm value.

The annual average farm value was 32 percent lower in 1956 than in 1952 and 28 percent lower than in 1950 (table 62, p. 113). The annual average farm-retail spread has varied within a range of about 10 percent since 1950. The 1956 average was 4 percent larger than in 1950 but 4 percent smaller than in 1953.

Like firms marketing eggs, poultry-marketing firms apparently have been able to keep costs down although prices, wages, and transportation charges have risen. Developments similar to those in the marketing of eggs probably have kept the spread from rising more than 4 percent from 1950 to 1956. Processors have built large, well equipped plants in the producing areas. Economies of scale have been realized and costs of operating plants are lower in the producing areas than in large cities. Wage rates, rents, taxes, and other costs are lower in the producing areas. Lower costs of assembling live birds at country plants have more than offset the higher costs of shipping ready-to-cook birds to distant markets.

Components of the Spread.—The AMS obtained information on prices, spreads, and marketing costs for ready-to-cook frying chickens retailed in Chicago during July and October 1955 (*337*). The average spread between the retail price in a sample of independent stores and the price paid wholesalers was 10.3 cents in July when their retail price averaged 55.1 cents per pound and 8.8 cents per pound in October when the retail price was 47.1 cents. In a sample of chain stores the retail price in July 1955 was 56.8 cents and the spread was 9.6 cents between this price and the average price these stores paid for fryers delivered, f.o.b. Chicago; in October the retail price was 49.8 cents and the spread 10.0 cents.

Data were obtained from wholesalers who bought fryers from processors in truckload lots, f.o.b. Chicago, and sold them in smaller quantities to retail stores, restaurants, hotels, and other buyers. Their price spread averaged from 2 to 3 cents per pound in July and October 1955. Labor constituted about 70 percent of a typical wholesaler's total operating costs; plant costs and fuel, power, and light accounted for 11 percent of the total; transportation, 9.5 percent; selling, 4.5 percent; overhead, 4.0 percent; and miscellaneous costs, 1.0 percent.

Farmers in Arkansas and Georgia produce a large part of the frying chickens marketed in Chicago. These chickens are processed in large plants in these States. Processors there had an average gross margin in July and October 1955 of about 7.5 cents per pound, ready-to-cook basis (*337*). Their approximate costs per pound were:

	Cents per pound (ready-to-cook basis)
Assembly of chickens from farms	0.75
Feeding birds at plant	.25
Processing and packaging labor	3.00
Boxes and other packaging material	1.00
Freight to markets	1.25
Overhead, miscellaneous cost, and profit	1.25
Total	7.50

BAKERY AND CEREAL PRODUCTS

The bakery and cereal products group accounts for about one-sixth of the retail cost of the family market basket of farm food products. It is second only to fruits and vegetables in the size of the farm-retail spread.

The farmer's percentage share of the retail cost of this group is less than for any other group in the market basket except "miscellaneous products." In 1956, the farm value of the grains used in bakery and cereal products was 16 percent of the retail cost; when the value of the nongrain ingredients used in bakery products is included, the farmer's share is raised to 21 percent.

TRENDS, 1947–56

The value of the farm ingredients used in bakery and cereal products showed little correspondence to trends in the average retail cost (fig. 19). This is in contrast to the farm and retail prices of the three livestock products groups, which tend to move together, with trends in the retail cost and farm value showing similar up and down movements. Because the farm value is such a small part of the retail cost, farm prices can fluctuate considerably with little effect on retail cost. For example, a 50-cent change in the price received by farmers for a bushel of wheat would mean only about a ¾-cent change in the cost of wheat in a loaf of bread—less than 5 percent of the average retail price of white bread in 1956.

The farm-retail spread for bakery and cereal products has increased steadily during the postwar period. The retail cost also has increased quite steadily, with a rise in each year except

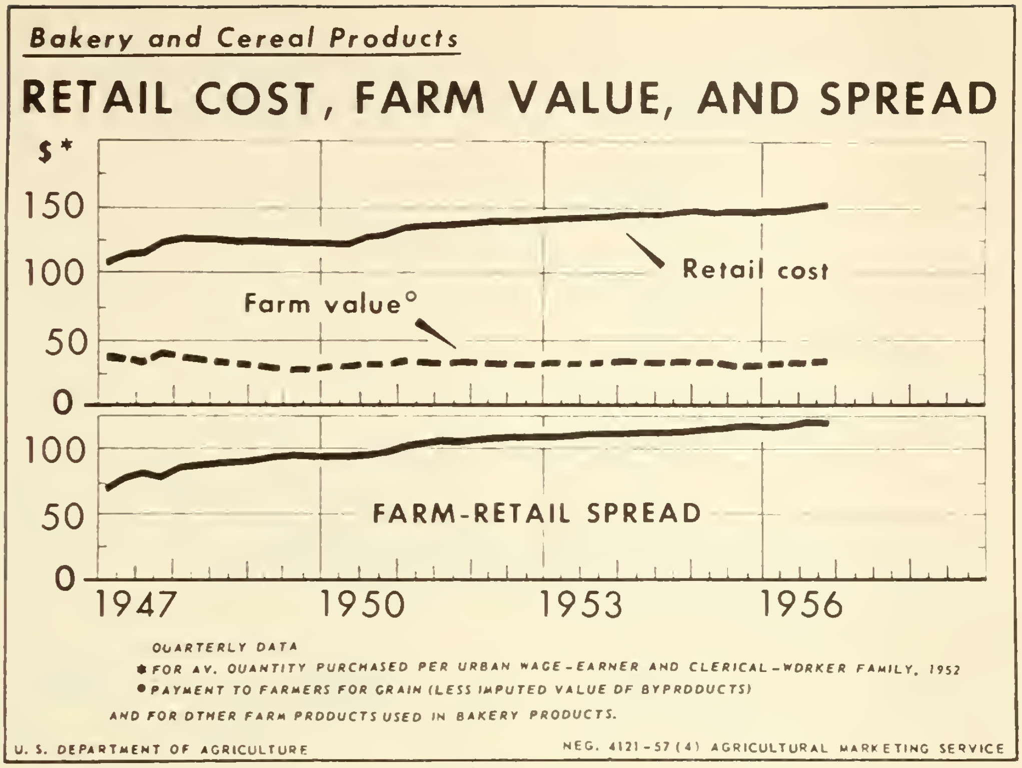


Figure 19

1949 when a substantial drop in the farm value of ingredients caused a slight decline.

The postwar increases in the retail cost and farm-retail spread for the bakery and cereal products group are more than for other product groups. In 1956, the farm-retail spread was 37 percent higher than the 1947–49 average (table 65, p. 116) compared with an average increase of 23 percent for the market basket. The average rise in retail prices over the 1947–49 average was 24 percent, while the average price increase for all foods in the market basket was 3 percent.

Changes in the farm value of the bakery and cereal products group from 1947 to 1956 showed little relationship to trends in the retail cost and farm-retail spread. The farm value was at a postwar high in 1947, declined from 1947 to 1949, and then increased again to 1951. Since 1951, the farm value has declined slightly in most years. The price of wheat is the dominant factor in the farm value for bakery and cereal products. Wheat is the principal grain product, with rice, oats, and corn of minor importance. The nongrain ingredients—eggs, shortening, dairy products, sugar, and fruit—usually account for 25 to 30 percent of the total farm value.

White pan bread accounts for almost half of the retail cost of the bakery and cereal products group. Vanilla cookies and soda crackers are the only other bakery products priced (table 43, p. 73). Therefore, trends in prices and margins for bread are major factors in trends for the group.

Prices of bread apparently rose more between 1947 and 1954 than prices of other bakery products. The average price of bread shipped (produced) by bakeries was 35 percent higher in 1954 than in 1947, compared with an increase of 24 percent for bread-type rolls and sweet yeast goods, 18 percent for hand-made cookies, 17 percent for doughnuts, 10 percent for cake, and 5 percent for pies.[19] The smaller increase for cake and pies may reflect the competition of cake mixes and frozen products. Thus, the increase since 1947 in the retail cost of the bakery and cereal products group may be somewhat larger than if retail prices of cakes, pies, and other products were available.

The retail price of white pan bread averaged 12.5 cents per pound in 1947; in 1956 it averaged 17.9 cents, an increase of 43 percent (table 66, p. 117). The price rose each year of this period, while wheat and flour prices remained relatively stable (fig. 20). Payments for marketing services, as measured by the farm-retail spread, also increased each year—from an average of 8.8 cents in 1947 to 14.7 cents in 1956, an increase of 67 percent. The farm value of all ingredients dropped from 3.7

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[19] Price changes were computed by the quantity and value of total shipments including interplant transfers of Industry 2051, Bread and Related Products given in 1954 Census of Manufactures "Bakery Products," Bul. MC-20E.

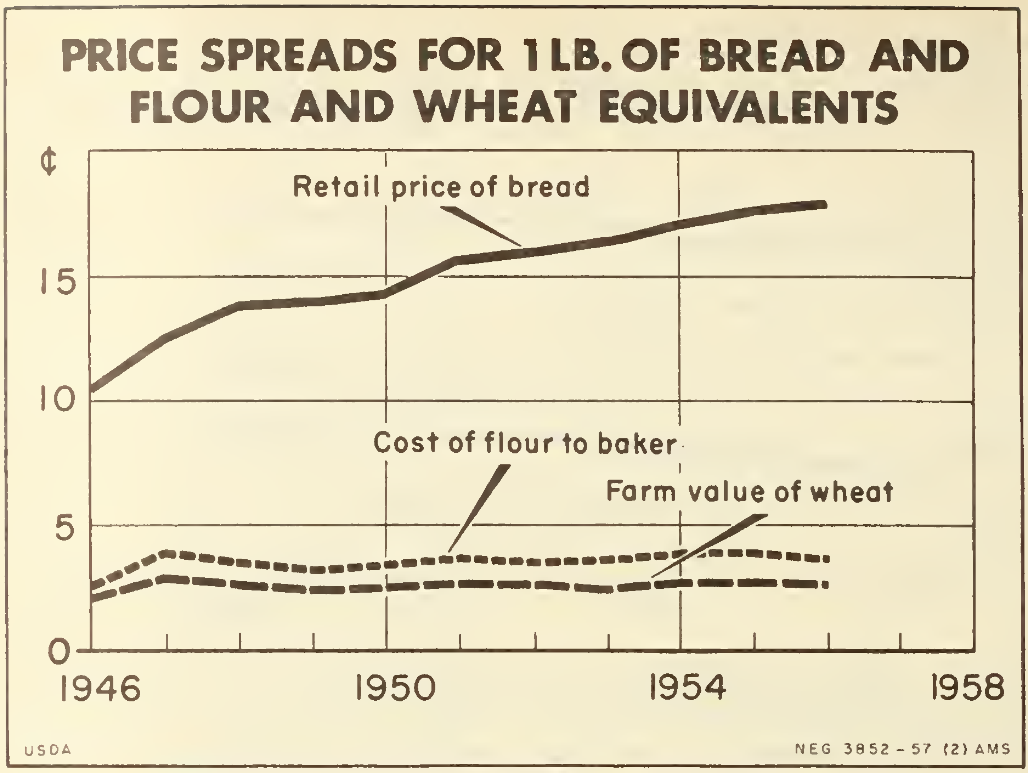

FIGURE 20

cents in 1947 to 2.9 cents in 1949. Quarterly average farm values in 1950–56 ranged from 3.0 to 3.4 cents. Because the farm value is such a small part of the retail price, considerable fluctuation can take place in farm prices without affecting the retail price.

MARKETING SERVICES AND COST FACTORS

Moving grain from the farm and transforming it into many different food products involves many processing and distributing agencies, operations, and costs. Extensive processing is required to transform grain into bread and other bakery goods and ready-to-eat cereals, which are the major products in this group. The grain is transported, stored, milled, and processed into flour and cereals; the flour then goes to bakers to be made into bread, cakes, pies, and other products. Packaging costs for most ready-to-eat cereals are high relative to the cost of the grain.

Milling, baking, and other processing account for the largest single part of the farm-retail spread for bakery and cereal products. According to estimates made for the year 1939, percentages of the total spread going to each function were as follows (*37*, p. 17):

	Percent
Retailing	23
Wholesaling	12
Processing	58
Assembly	2
Transportation	5
Total	100

No comparable data are available for the group for a later period. But it is possible that processing now accounts for an even larger part of the total spread. The production of flour mixes has increased rapidly in recent years. Factory baked bread has continued to increase relative to home baked bread. It is estimated that bakers use about 65 percent of domestic consumption of flour now compared with less than half in 1939. Also, the trend toward smaller packages for family flour increases the cost (per pound) for labor and packaging materials.

The average retail price of a pound loaf of bread in 1956 was divided approximately as follows among retailers, bakers, millers, farmers, and other agencies:

	Cents
Farm value, wheat and other ingredients	3.2
Miller's flour margin	.8
Grain handling, transportation, processing of nonflour ingredients	1.0
Cost to baker of flour and other ingredients	5.0
Baking and distribution margin	12.9
Retail price of bread	17.9

Thus, the cost of baking and distributing were 72 percent of the retail price and 88 percent of the farm-retail spread. The retail margin on bread usually ranges from 2 to 3 cents per pound of bread. For 1955, an estimate of 2.9 cents was made, based on a national survey of bread prices undertaken by a member of the allied trades of the baking industry (*55*, p. 14).

COSTS AND PROFITS IN THE BAKING AND MILLING INDUSTRIES

Major bread-baking companies were surveyed by the Senate Agriculture Committee in 1956. From this survey data are available for 19 multi-plant companies with total sales of 1.4 billion dollars in 1955 (table 19). For these companies, which made bread and other products, the ingredient cost was about one-third of the sales value of the products in 1955, and wages and salaries of employees accounted for almost another third. Packaging and wrapping materials ranked next with 7 percent, followed by delivery expense other than wages and salaries of 5 percent. Net profits. after taxes, were 3.6 percent of sales in 1955.

Wages and salaries paid by these 19 companies were 49 percent of the total gross margin (the difference between sales value and ingredient cost). Other labor expense—Social Security taxes on wages and salaries and fringe benefits such as pension funds, health and welfare funds, employee group insurance and others, were another 3 percent. Packaging and wrapping materials were about 11 percent of the margin.

TABLE 19.—*Specified costs and profits of 19 multiplant baking companies, 1955* [1]

Item	Actual	Percentage of sales	Percentage of margin
	1,000 dollars	*Percent*	*Percent*
Sales	1,465,013	100.0	--
Ingredient cost [2]	452,460	33.2	--
Gross margin	912,553	66.8	100.0
Expenses:			
Packaging and wrapping materials	96,864	7.1	10.6
Advertising and promotion	51,241	3.8	5.6
Delivery, other than wages and salaries	67,613	5.0	7.4
Wages and salaries of employees	446,894	32.7	49.0
Fringe benefits to employees [3]	17,531	1.3	1.9
Social Security taxes on wages and salaries	10,064	.7	1.1
Compensation of officers	5,016	.4	.5
Depreciation allowance	30,998	2.3	3.4
Taxes (Other than Social Security, income, and excess profits)	11,439	.8	1.3
Items not specified [4]	73,295	5.3	8.1
Profits before taxes	101,598	7.4	11.1
Income and excess profits taxes	52,725	3.8	5.8
Net profits (after taxes)	48,797	3.6	5.3

[1] An association of bakeries furnished a combined report for 58 plants of affiliated companies. This association was counted as one company.

[2] Includes cost of small quantities of bakery products purchased for resale.

[3] Pension funds, health and welfare funds, employees group insurance, bonuses, etc.

[4] Other plant and office expense, including insurance, light and power, fuel, machinery and building repairs and maintenance, office supplies, and other expense. Computed as a residual (sales less specified costs and profits).

Compiled from "Cost and Margin Trends in the Baking Industry", Senate Committee on Agriculture and Forestry, U. S. Govt. Printing Off. 91703, May 1, 1957.

Similar data on sales, costs, and profits are available for 18 of the 19 companies for 1945 and 1950–55 (table 20). Cost relationships remained rather stable over a number of years, but because of the declining proportion of sales represented by ingredient cost, most cost items as percentage of sales increased. Ingredient cost declined from 37.5 percent of sales in 1945 to 32.9 percent in 1955. Wages and salaries increased from 30.7 percent in 1945 to 31.8 percent in 1950 and 32.7 percent in 1955. Profits after taxes were the same percentage of sales in 1954 and 1955 as in 1945. The highest profit ratio was 5.1 percent in 1950.

Average hourly earnings of production workers in bakery products and in flour and other grain mill products industry groups have increased each year—from 85 cents since 1945 to $1.81 in 1956 in the bakery products industry and from 89 cents to $1.93 in the milling industry. The increase over 1947 was 69 percent in both industries (table 21). Because of increases in productivity, labor costs did not increase as much as hourly earnings.

The trend in wholesale prices of waxing paper, boxboard, and grocery bags give some indication of changing costs to bakeries for wrapping and packaging materials. Prices of waxing paper in 1956 were 46 percent higher than in 1947, container board was 24 percent higher, and grocery bags cost 46 percent more (table 5, p. 9).

Net profits (after taxes) as a percentage of sales of seven major baking companies were generally lower after 1950 than in earlier years (except for 1944 and 1945) (tables 6 and 7, pp. 10-11). In relation to stockholders' equity, profits (after taxes) following 1950 were below the 1946-50 average but higher than during World War II and prewar. Profits of grain mill products companies have followed somewhat similar trends. In recent years, profits (after taxes) as a percentage of sales were lower than the prewar 1935–39 average, but profits were higher than 1935–39 when measured in relation to stockholders' equity.

Changes in Milling and Baking Industries

The grain mill products industry (SIC 204) is made up of plants classified in the following groups: Flour and meal, cereal preparations, rice milling, flour mixes, and prepared animal feeds.

The number of establishments in the four food subgroups, excluding animal feeds, declined 30 percent between 1947 and 1954 (table 22). The total number of employees declined 14 percent but the average number of employees

TABLE 20.—*Cost of specified items and profits as percentage of sales, 18 multi-plant baking companies, 1945 and 1950–55* [1]

Item	Unit	1945	1950	1951	1952	1953	1954	1955
Number of plants	Number	414	407	405	400	397	411	417
Total sales	Million dollars	663.8	986.2	1,094.3	1,149.9	1,205.8	1,273.6	1,348.1
Sales per plant	1,000 dollars	1,603	2,423	2,702	2,875	3,037	3,099	3,233
Sales	Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Ingredient cost	do	37.5	35.6	36.1	34.2	33.8	33.9	32.9
Cost of bakery products bought for resale	do	.1	.2	.2	.2	.2	.3	.3
Packaging and wrapping material	do	6.1	6.6	7.4	7.4	7.1	7.1	7.1
Advertising and promotion expense	do	2.9	2.6	2.5	2.7	2.8	3.0	3.8
Delivery expense, other than wages and salaries	do	4.6	4.4	4.7	4.9	5.0	4.9	5.0
Wages and salaries of employees	do	30.7	31.8	31.1	32.2	32.6	32.4	32.7
Fringe benefits to employees [2]	do	.3	.4	1.0	1.1	1.2	1.3	1.3
Social Security taxes	do	.7	.7	.7	.7	.7	.7	.7
Compensation of officers	do	.4	.4	.4	.4	.4	.4	.4
Depreciation allowance	do	1.6	2.2	2.2	2.3	2.2	2.2	2.3
Taxes other than Social Security, income, and excess profits	do	.9	.9	.8	.8	.8	.8	.8
Items not specified [3]	do	5.3	4.9	4.8	4.8	4.8	5.4	5.2
Profits before taxes	do	8.9	9.3	7.8	8.3	8.4	7.6	7.5
Income and excess profits taxes	do	5.3	4.2	4.1	4.6	4.4	4.0	3.9
Net profits (after taxes)	do	3.6	5.1	3.7	3.7	4.0	3.6	3.6

[1] An association of bakeries furnished a combined report for 58 plants of affiliated companies. This association was counted as one company.

[2] Pension funds, health and welfare funds, employees group insurance, bonuses, etc.

[3] Other plant and office expense, including insurance, light and power, fuel, machinery and building repairs and maintenance, office supplies, and other expense. Computed as a residual (sales less specified costs and profits).

"Cost and Margin Trends in the Baking Industry," Senate Committee on Agriculture and Forestry, U. S. Govt. Printing Off. 91703, May 1, 1957.

per plant increased 23 percent. Value added in these industry groups was only 4 percent more in 1954 than in 1947; therefore, quantities produced were less in 1954 because of the higher cost levels in that year. Value added per person increased less than wages and salaries per person. Payroll costs were a higher proportion of the value added in 1954 than in 1947.

Production of flour mixes has increased in

TABLE 21.—*Average hourly earnings in grain-products industry groups, 1945–56*

Year	Flour and other grain mill products [1]	Bakery products [2]
	Dollars	*Dollars*
1945	0.89	0.85
1946	.99	.95
1947	1.14	1.07
1948	1.24	1.16
1949	1.32	1.24
1950	1.38	1.29
1951	1.48	1.40
1952	1.59	1.48
1953	1.70	1.57
1954	1.77	1.66
1955	1.85	1.72
1956	1.93	1.81
1957		

[1] Industries whose principal products are flour and meal (SIC 2041).

[2] Includes the bread and other bakery products industry (SIC 2051), and biscuit, crackers, and pretzels industry (SIC 2052).

"Employment and Earnings," Bureau of Labor Statistics.

TABLE 22.—*Grain mill industry: Establishments, employees, payroll, and value added, 1947 and 1954* [1]

Item	Unit	1947	1954	Ratio 1954/1947
Establishments	No.	1,518	1,060	0.70
Employees:				
All	No.	58,065	50,052	.86
Production workers	No.	45,948	38,091	.83
Employees per establishment:				
All employees	No.	38.3	47.2	1.23
Production workers	No.	30.3	35.9	1.18
Payroll:				
All employees	1,000 dol.	169,174	209,659	1.24
Production workers	1,000 dol.	123,105	147,254	1.20
Wages and salaries per employee:				
All employees	Dol.	2,914	4,189	1.44
Production workers	Dol.	2,679	3,866	1.44
Value added by manufacture	1,000 dol.	608,643	632,919	1.04
Payroll as percentage of value added:				
All employees	Pct.	27.8	33.1	1.19
Production workers	Pct.	20.2	23.3	1.15
Value added per employee:				
All employees	1,000 dol.	10.5	12.6	1.20
Production workers	1,000 dol.	13.2	16.6	1.26

[1] Includes plants classified in following industries: Flour and meal (SIC 2041), cereal breakfast foods (SIC 2043), rice milling (SIC 2044), and flour mixes (SIC 2045).

Compiled from 1954 Census of Manufactures, Bul. MC-20D "Grain-Mill Products."

TABLE 23.—*Bakery products: Establishments, employees, payroll, and value added, 1947 and 1954* [1]

Item	Unit	1947	1954	Ratio 1954, 1947
Establishments	Number	7,122	6,414	0.90
Employees:				
All	do	278,784	291,100	1.04
Production workers	do	187,045	178,777	.96
Employees per establishment:				
All employees	do	39.1	45.4	1.16
Production workers	do	26.3	27.9	1.06
Payroll:				
All employees	1,000 dollars	763,999	1,124,426	1.47
Production workers	do	428,417	587,591	1.37
Wages and salaries per employee:				
All employees	Dollars	2,740	3,863	1.41
Production workers	do	2,290	3,287	1.44
Value added by manufacture	1,000 dollars	1,362,985	1,977,187	1.45
Payroll as percentage of value added:				
All employees	Percent	56.1	56.9	1.01
Production workers	do	31.4	29.7	.95
Value added per employee:				
All employees	1,000 dollars	4.9	6.8	1.39
Production workers	do	7.3	11.1	1.52

[1] Includes plants classified in two industry subgroups: Bread and related products (SIC 2051) and biscuit, crackers, and pretzels (SIC 2052).

Compiled from 1954 Census of Manufactures, Bul. MC-20E "Bakery Products."

TABLE 24.—*Bakery products: Percentage distribution of quantities of products, 1947 and 1954* [1]

Kind of product	1947	1954
	Percent	*Percent*
Bread	73.8	71.5
Bread-type rolls	6.6	9.9
Sweet yeast goods	4.3	4.1
Soft cakes	8.4	6.9
Pies	4.2	4.7
Cookies, hand made	.5	.4
Doughnuts (pounds estimated)	2.2	2.5
Total	100.0	100.0

[1] Based on quantities reported for the industry subgroup "Bread and Related Products" (SIC 2051).

Compiled from 1954 Census of Manufactures, Bul. MC-20E, "Bakery Products."

TABLE 25.—*Bakery products industry: Quantity of specified ingredients per 100 pounds of flour, 1947 and 1954* [1]

Ingredients	1947			1954		
	Bread and related products	Biscuits and crackers	Total	Bread and related products	Biscuits and crackers	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Sugar	13.2	24.0	15.0	10.9	16.7	11.7
Shortening	2.9	5.9	3.4	3.1	3.9	3.3
Lard	3.4	7.0	4.0	3.0	7.2	3.6
Other fats and oils	1.0	6.0	1.8	.7	5.0	1.3
Dried milk	2.8	.6	2.4	2.6	.6	2.3
Frozen eggs	1.8	.6	1.6	2.3	.6	2.0

[1] The value of ingredients, supplies, and containers not specified by kind was 41 percent of the total in 1954 and 33 percent in 1947.

Compiled from 1954 Census of Manufactures, Bul. MC-20E, "Bakery Products."

recent years relative to "family" type flour. This shift is reflected in a relative increase in plants whose major product is flour mixes rather than flour and meal. Between 1947 and 1954, the plants classified as flour and meal declined from 1,243 to 803 while those in the flour mixes subgroup increased from 123 to 131.[20]

In 1954, plants making bread and related bakery products (rolls, cakes, pies, hand-made cookies and doughnuts) totaled 6,103. They included wholesale, chain grocery, house-to-house, and multi-unit retail bakeries. In addition, there were 12,611 single-shop retail bakeries. The average number of employees in the 6,103 establishments was 40; in the single-shop retail bakeries the average was less than 6 employees. Averages for 1947 were 34 and 4.5 employees, respectively. There were 311 establishments in the cracker segment of the industry in 1954, compared with 326 in 1947; the number of employees averaged 144 in 1954 compared with 141 in 1947.

The value added per employee for all except retail bakers (including those in biscuit and cracker industry) was 39 percent more in 1954 than in 1947; the value added per production worker was 52 percent higher (table 23). Payroll of all employees as percentage of value added was slightly more in 1954 than in 1947, but payroll of production workers was a smaller proportion—29.7 percent in 1954 compared with 31.4 percent in 1947.

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[20] Establishments are classified according to the major product. Products primary to one industry may be the secondary product of another group, and the proportions produced as secondary products in other industries may change. For example, in 1954 the products of the flour and meal subgroup were 94 percent flour and meal, but only 84 percent of all flour and meal was milled in establishments of this industry group. In 1947, 92 percent of all flour and meal was produced by establishments classified in this group. Therefore, changes in number of plants and in numbers of employees are misleading unless the coverage ratio is considered. In 1947, only 17 percent of the prepared flour and mixes was made in establishments classified in the flour mix (blended and prepared flour) industry but in 1954 the percentage was 45.

The cost of labor and other expenses depend partly on the kind of product made. Major changes between 1947 and 1954 in the bread and related products industry were an increase in the relative importance of bread-type rolls and a decrease in cakes (table 24).

The products of the biscuit and cracker industry are crackers, cookies, and pretzels. In both years cookies accounted for 57 percent of the total value, crackers for about 40 percent and pretzels for 3 percent. The total pounds of products were 24 percent more in 1954 than in 1947. This increase in quantity of product with a smaller number of production employees indicates an increase in productivity of labor in this segment of the industry. Labor cost is a smaller proportion of value added in this part of the industry than in the bread and related products segment, as much of the work is done by machinery.

The baking industry (excluding single-shop retail bakeries) used 7 percent more flour in 1954 than in 1947—10,379 million pounds in 1954 and 9,702 in 1947. Only the more important ingredients are specified by kind (table 25).

FRUITS AND VEGETABLES

Fruits and vegetables accounted for 23 percent of the retail cost of the market basket of farm foods in 1956. The fruit and vegetable group ranked second among the product groups in terms of retail cost. Meat products were first, accounting for 24 percent of the retail cost. Fruits and vegetables accounted for 17 percent of the total farm value and ranked third, following the meat product and dairy product groups, respectively. The farm-retail spread of the fruit and vegetable group, however, exceeded that of any other commodity group in the market basket, accounting for 26 percent of the market basket total. The farmer's share of the retail cost for all fruits and vegetables was 30 percent in 1956 compared with a farmer's share of 40 percent for the market basket as a whole.

TRENDS IN RETAIL COST, FARM VALUE, AND SPREAD

Annual indexes, 1919–56, for the fruit and vegetable group are given in table 73, page 121. All three series fluctuated widely but usually have moved in the same direction. In periods of rising and falling prices, farm values for fruits and vegetables normally rise and fall farther and faster than retail costs and farm-retail spreads. The spread is the most stable of the three (table 73).

The three index series for fruits and vegetables were at their lowest levels during the 1930's. From the late 1930's through 1956, the retail cost, farm value, and farm-retail spread rose substantially. During World War II, the farm value rose faster than either the retail cost or the farm-retail spread. Since 1952, however, the farm value has dropped relative to the other series.

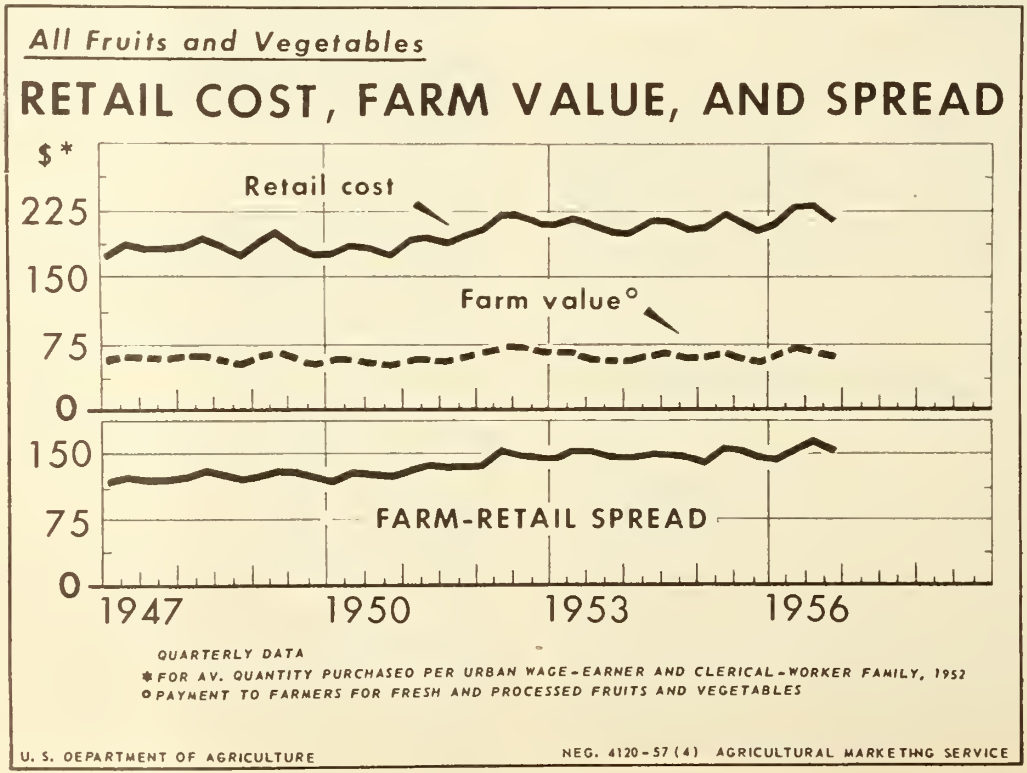

FIGURE 21

The farm-retail spread for all fruits and vegetables rose in almost every year from 1947 to 1956. The annual average for 1956 was almost one-fourth higher than in 1947–49. Because of the seasonal movement in the spread, the second quarter was highest in each year except one (fig. 21). The farm value rose sharply during 1950–52 but declined afterward. The average for 1956 was 10 percent more than that for 1947–49. Retail cost showed the widest year-to-year movements. In 1956, it was about one-fifth higher than in 1947–49.

Fresh Fruits and Vegetables.—The retail cost, farm value, and farm-retail spread for fresh fruits and vegetables changed much more from year to year and from quarter to quarter than did the series for all fruits and vegetables (fig. 22). The spread of the fresh fruit and vegetable group reflects the perishable nature of these products and the short-term change in supplies which result in more frequent price changes. Over the 10-year period, the spread climbed 43 percent; retail cost, 31 percent; and the farm value, 14 percent. From 1950 to 1952, however, the farm value rose 31 percent (table 74, p. 122).

The farm-retail spread tends to change with the farm value. This suggests that some marketing agencies take a constant percentage markup on their buying price.

Fresh Vegetables.—The farm-retail spread for fresh vegetables rose 56 percent from 1947 to 1956. However, average year-to-year changes in marketing spreads during this period were relatively small compared with the wide fluctuations in the retail cost and farm value (fig. 23). The retail cost in 1956 was 36 percent higher than in 1947; the farm value was 10 percent higher. Farm value and retail cost moved together but farm value fluctuated by a smaller amount. Both reached their highest levels in 1952. The peak established in 1952 can be explained largely by the rise in potato prices. Retail potato prices, which accounted for about 41 percent of the retail cost for all fresh vegetables in 1952, rose 65 percent from 1950 to 1952. Throughout the first three quarters of 1952, supplies of potatoes were short. The removal of ceilings on potato prices also contributed to the high level of vegetable prices. Other highs, caused largely by higher prices for onions and potatoes, were in 1948, 1955, and 1956.

Fluctuations are much more pronounced in the retail cost and farm value of fresh vegetables than in the series for all fruits and vegetables or for fresh fruits and vegetables. The relatively stable retail and farm prices of processed fruits and vegetables tend to keep changes in the series for all fruits and vegetables within a rather narrow range. The spread for fresh vegetables also shows wide variations relative to the spreads for all fruits and vegetables and fresh fruits and vegetables. One characteristic common to all three groups,

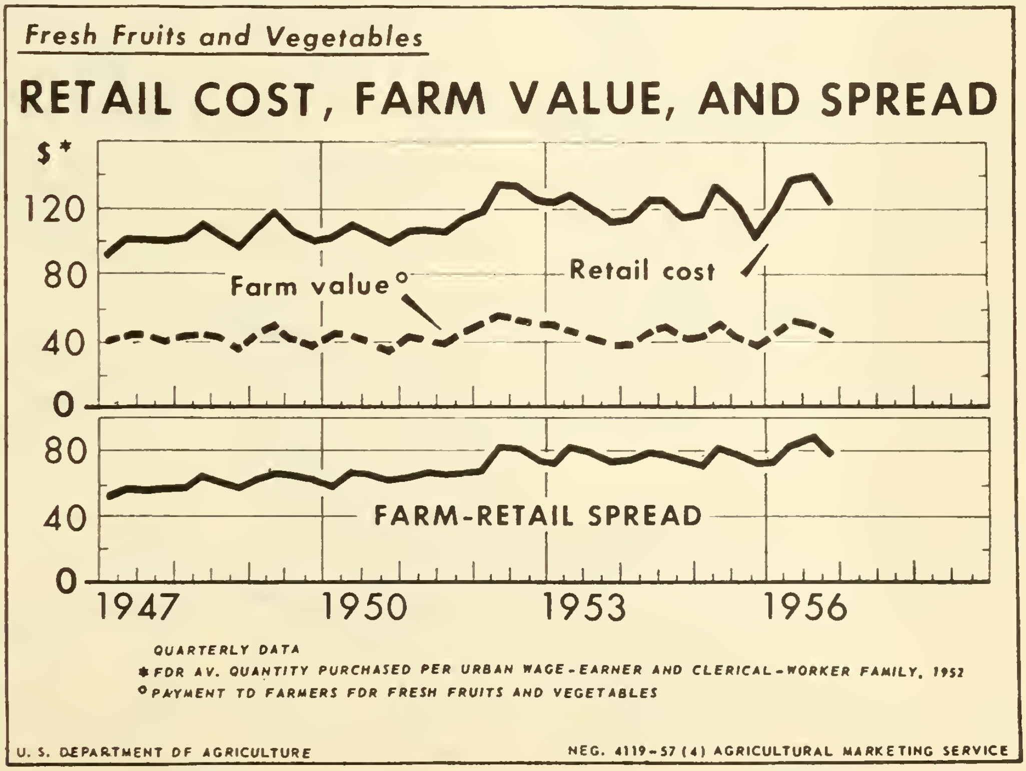

Figure 22

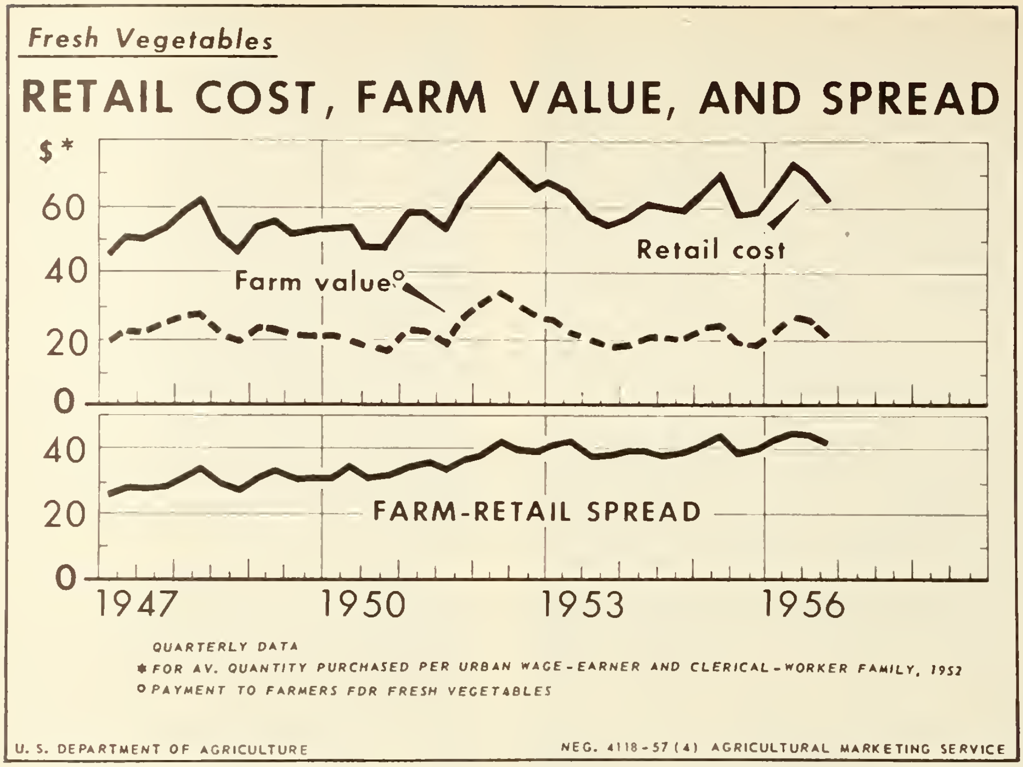

FIGURE 23

however, is the relative stability of the farm-retail spread compared to either retail cost or farm value.

Processed Fruits and Vegetables.—Data for some items in this subgroup were not available before 1953. The farm-retail spread was fairly stable from 1953 to 1956 (table 89, p. 130).

Trends in the farm-retail spreads for individual canned fruits and vegetables for which data are available in early years, in general, ranged downward through the 1920's and 1930's, then moved upward in the 1940's, and still higher in recent years. Spreads for canned fruits and vegetables are relatively stable compared with those for fresh produce, and no seasonal pattern within the marketing year can be recognized. As canned foods are storable, large stocks may be kept on hand by retailers and wholesalers, thereby minimizing the effects of current supply of raw products on the farm value.

SEASONAL MOVEMENTS

The retail cost, farm value, and farm-retail spread for all fruits and vegetables and fresh fruits and vegetables follow roughly the same seasonal movement (fig. 24). The average seasonal pattern for the 10-year period, 1947–56, shows the farm value rising to a peak in May. The retail cost and the farm-retail spread for these groups reach their peaks in June and July. The spread drops to its lowest point in September. The farm value and retail cost fall to their lowest points in October. The only marked difference between the two groups

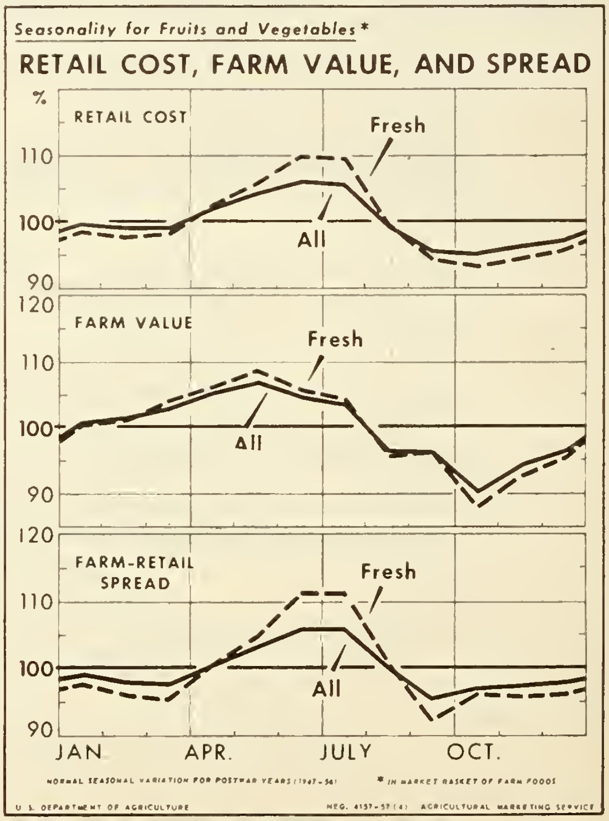

FIGURE 24

is the degree of amplitude between the spring or summer high values and fall low values. For example, the average spread for all fruits and vegetables drops 10 percent from June to September compared with a drop of 17 percent in the same period for the fresh fruit and vegetable group. The relatively stable values of the canned, dried, and frozen items were responsible for the comparatively small amplitude in the seasonal fluctuations for all fruits and vegetables compared with that for fresh fruits and vegetables.

The seasonal pattern is roughly similar for retail cost, farm value, and the farm-retail spread of the vegetables group. Seasonals for fresh vegetables reach their peaks in May. In the fall, retail and farm values of fresh vegetables drop even further from spring peaks than those of fresh fruits and vegetables but the spreads for both groups fall by about the same amount (table 26).

INDIVIDUAL COMMODITIES

Green Beans.—The farm-retail spread for green beans has almost doubled, increasing from 7.0 cents per pound in 1937-38 to 13.7 cents in 1956. It decreased in several years during this period but the trend was definitely upward in most years (table 80, p. 126). Green bean prices at retail are highest in the first quarter and lowest in the third quarter.

Cabbage.—The spread increased slightly from 1928 to 1930, then decreased until 1940. It rose from 2.7 cents per pound in 1940 to 6.1 cents in 1956 (table 81, p. 126). Retail prices of cabbage are highest during the first 6 months of the year and lowest in the fall.

Carrots.—The spread for carrots nearly tripled from 1935 to 1956 and was higher in almost every year than in the preceding one. It was 10.2 cents per pound in 1956 (table 82, p. 126). Retail prices of carrots are lowest in the spring and highest in fall and winter.

Lettuce.—The farm-retail spread for a head of lettuce ranged from a low of 5.7 cents in 1940 to a high of 10.6 cents in 1956 (table 84, p. 127). Lettuce prices show little regularity, but retail prices are frequently highest in fall and winter.

Onions.—The trend in the farm-retail price for onions also has been upward. From a low of 2.7 cents per pound in 1931, it increased to 6.2 cents in 1956 (table 85, p. 128). Retail prices tend to be highest in spring and summer.

Potatoes.—Retail prices do not show a definite seasonal pattern but they are frequently highest in the spring and early summer months. Since 1919, the farm-retail spread has fluctuated widely but the long-term trend has a definite upward movement. In 1956, the spread was 41.6 cents per 10-pound bag compared with a low of 9.5 cents in 1932 (table 86, p. 129).

Sweetpotatoes.—The spread has shown the same upward trend observed for other fresh vegetables. It varied from a low of 2.8 cents per pound in 1938 to a high of 10.8 cents in 1952 (table 87, p. 130). Retail prices of sweetpotatoes show a regular seasonal pattern with retail prices reaching a peak in June-July.

Apples.—The long-term movement in the farm-retail spread has been upward. The spread was 8.8 cents per pound in 1956, more than three times the 1939 level (table 75, p. 123). The retail price is highest in the summer months and lowest in the fall when the supply is largest.

Oranges.—The spread for oranges has fluctuated from a high of 42.2 cents per dozen in 1920 to a low of 21.0 cents in 1933 and 1938. It was 38.5 cents in 1956 (table 78, p. 124). The spread is highest in summer and usually lowest in late winter. Orange prices at retail are lowest in winter and highest in fall.

TABLE 26.—*All fruits and vegetables, fresh fruits and vegetables, and fresh vegetables: Seasonal indexes for retail cost, farm value, and farm-retail spread, 1947–56*

Month	All fruits and vegetables			Fresh fruits and vegetables			Fresh vegetables		
	Retail cost	Farm value	Farm-retail spread	Retail cost	Farm value	Farm-retail spread	Retail cost	Farm value	Farm-retail spread
January	99.6	100.6	99.0	98.4	100.5	97.7	105.2	108.6	102.3
February	99.0	101.5	98.2	97.7	101.2	96.2	103.9	105.2	101.7
March	99.1	103.0	97.8	98.3	104.1	95.5	101.4	105.0	99.1
April	102.1	105.3	100.6	102.6	106.2	100.6	105.4	108.2	102.6
May	104.2	106.9	103.1	106.0	108.6	104.9	108.3	108.3	108.2
June	106.1	104.7	106.0	109.8	106.1	111.5	106.5	103.8	107.5
July	105.7	103.6	106.1	109.4	104.6	111.5	103.9	102.7	106.1
August	99.1	96.7	100.2	99.2	95.8	100.9	94.0	93.8	94.5
September	95.9	96.5	95.8	94.4	96.5	92.5	87.7	84.8	89.9
October	95.3	90.3	97.3	93.5	88.0	96.5	88.3	82.4	92.7
November	96.5	94.4	97.6	94.5	92.8	96.1	95.9	98.6	94.7
December	97.4	96.7	98.2	96.0	95.7	96.3	99.5	98.4	100.7

MARKETING FRESH FRUITS AND VEGETABLES

The movement of fresh fruits and vegetables from the farm to the consumer involves four broad marketing functions. These are: Assembly, transportation, wholesaling, and retailing. Estimates for 1939, based on data from several sources, indicate that these functions accounted for the following percentages of the total spread (*318*):

	Percent
Assembly	10
Wholesaling	14
Transportation (intermarket)	29
Retailing	47

Estimates on an overall basis are not available for a recent year. Based on data from several studies of individual items in selected cities and time periods, it seems likely that the relative importance of these functions is about the same.[21] However, the share of the total farm-retail spread going to each of the agencies performing these functions varies widely, depending on the product, distance shipped, and other factors. For that reason, the average distribution cannot be estimated with precision. Variations are illustrated by data showing the various components of the farm-retail spreads for California lettuce and Florida sweet corn (figures 25 and 26).

Assembling and Wholesaling.—Shipping point marketing agencies assemble fruits and vegetables received from farmers and country auction markets and grade, pack, and accumulate loads for shipment to market. Many of these shipments are subdivided by wholesalers in terminal markets into small lots which meet the relatively small requirements of some retailers, restaurants, hotels, and institutions. Wholesalers display fresh fruits and vegetables for the inspection of prospective buyers. Sometimes they extend credit and often deliver products to retail stores.

Chain-store companies and the larger supermarkets frequently buy in the producing areas or from carlot receivers in the city markets. These firms, by performing many of the wholesale functions have thereby caused a decline in the proportion of fruits and vegetables handled by independent wholesalers.

Transportation.—Transportation costs make up a substantial portion of the marketing spread for fresh fruits and vegetables. Some important production areas are a great distance from major consumer markets. Many of the products are extremely perishable and must be shipped under refrigeration and receive careful handling both in transit and during distribution. Fresh produce is available all the year round and is being shipped from more distant areas than formerly, mainly because of greater consumer income per person and a growing population. For example, hauling of celery by

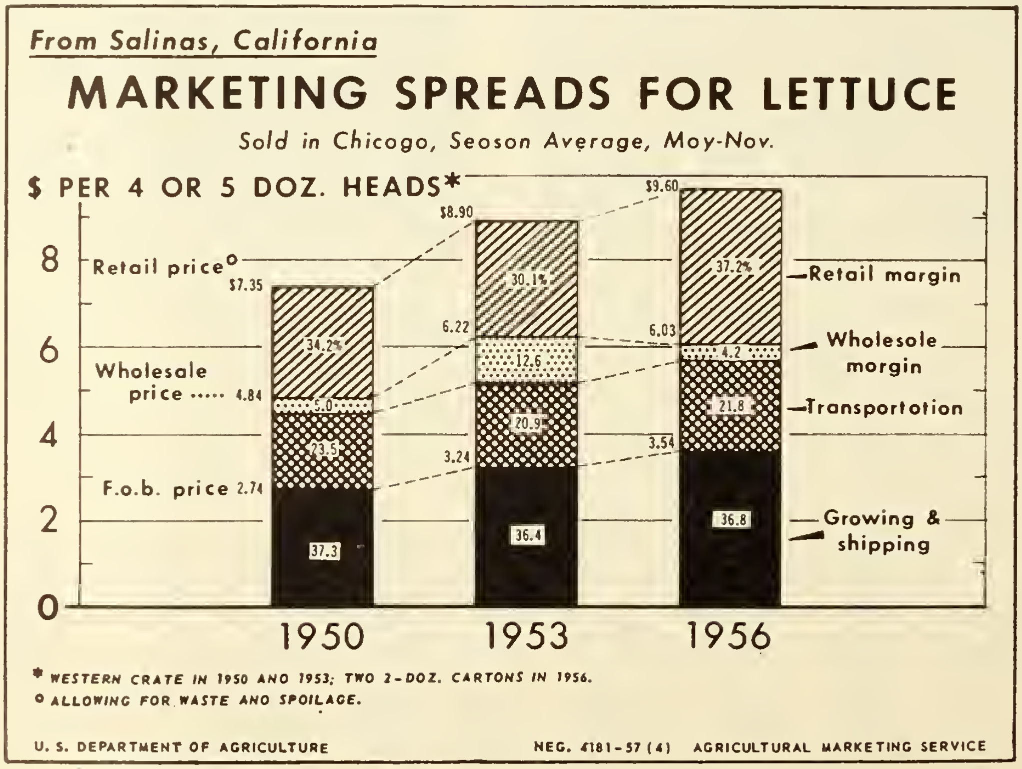

FIGURE 25

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[21] See p. 154 for listing of these studies.

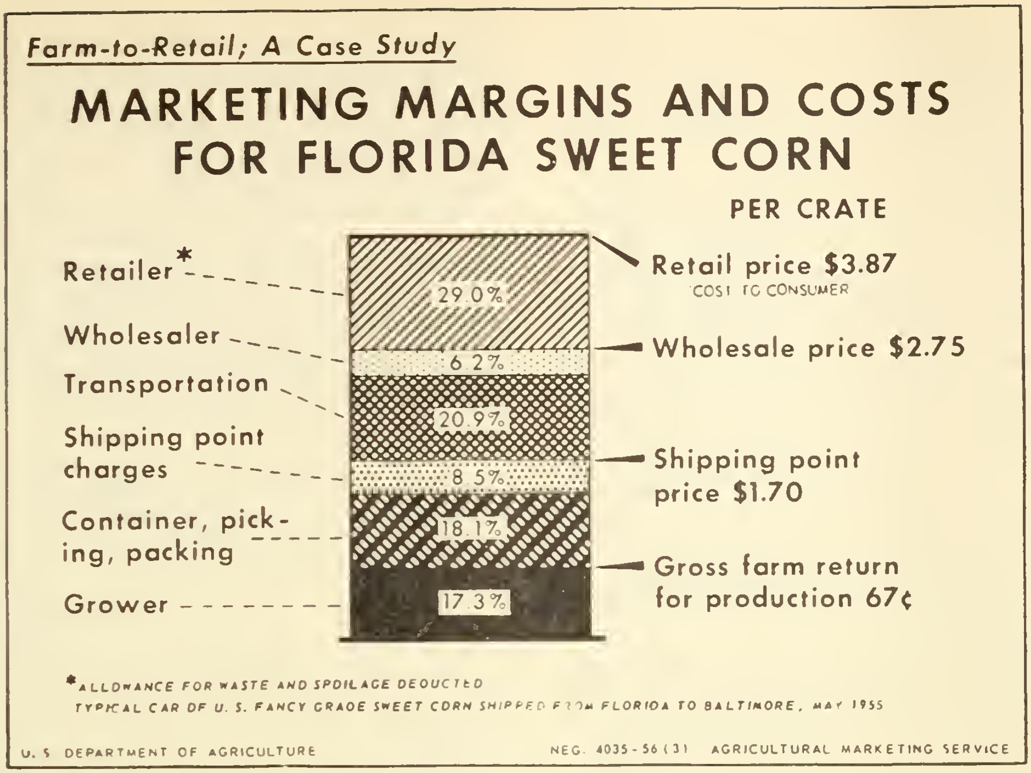


FIGURE 26

rail and truck from all growing areas to New York City in 1941 averaged 1,123 miles; by 1955, this average haul was up to 1,604 miles, an increase of 43 percent. Similarly, potatoes came from an average distance of 550 miles in 1941 but in 1955 were brought an average of 856 miles, an increase of 56 percent. For tomatoes, distances increased on the average by 35 percent from 1941 to 1955.

The same pattern has been observed in other markets. The average distance that celery moved to the Chicago market increased from 836 miles in 1941 to 1,400 miles in 1955, or 67 percent. Tomatoes were hauled an average of 1,153 miles to Chicago in 1955 compared with 819 miles in 1941. The average distance that apples were hauled to market at Chicago increased by a third in the same period. These examples can be multipled many times at markets throughout the country, although some lengths of hauls to market have changed very little in recent years.

The proportion of fruits and vegetables shipped by truck has increased. For example, total rail shipments of fruits and vegetables from Florida to other States remained relatively stable between the 1946–47 growing season and the 1954–55 season, but truck shipments more than quadrupled in this period. Shipments of produce from California are still carried chiefly by rail because of the greater distance to market, but the truck share of total shipments has been increasing (*29*).

Increases in transportation costs are caused largely by increases in freight rates. From 1913 to 1945, freight rates for fruits and vegetables increased only 30 percent. But they increased about 54 percent between 1945 and 1956. These rate increases, however, were much lower than those for all major agricultural commodities over the same periods (table 4, p. 8). Rate increases authorized on fruits and vegetables and other agricultural products were limited by "hold-downs," that is, maximum limitations in cents per 100 pounds, regardless of distance. One effect of hold-downs is to reduce the percentage increase for the more distant movements. Hold-downs also may keep the same spread between rates from distant areas and from areas somewhat less distant.

Retailing.—Retailing is the largest segment in the spread, making up almost half the total. Although costs of marketing produce have risen all along the line from assembly to the retail store since 1939, the proportion of the spread taken by the retailing function probably has not changed significantly. Retail food chains now perform many of the services formerly carried out by fruit and vegetable wholesalers. Many chains purchase produce from the point of assembly, perform the necessary warehousing operations, prepare and package produce into convenient consumer units, and make delivery to their retail stores.

The number of retail stores specializing in fruits and vegetables declined about 3 percent from 1948 to 1954. This compares with a percent decline for grocery stores in the same period (table 36, p. 55). Dollar sales of fruit stores and vegetable markets increased by almost a fourth from 1948 to 1954 while sales of grocery stores rose 39 percent.

Gross Margins.—A study made by AMS in Pittsburgh in 1954 showed that retail-store margins (difference between retail price and cost price to retailers) expressed as percentages of selling prices generally were larger for fresh fruits and vegetables than for canned and frozen items. The retail margin for fresh fruits and vegetables averaged about 30 percent of selling price compared with a little more than 20 percent for canned and frozen fruits and vegetables. Margins for individual fresh items varied considerably. Much less variation was found in the margins for individual canned and frozen foods. Perishability, higher labor costs in handling produce, and added marketing services are reasons for the higher margins for fresh products (*298*).

In another study of several large supermarkets conducted in 1954 by a retail trade organization, gross retail margins on fresh fruits and vegetables amounted to about 25 percent of selling price; for frozen vegetables, 22 percent; and for frozen fruits, 27 percent. These compare with 18 percent for the average margin on all products sold. The gross markup of 25 percent for fresh fruits and vegetables also was reported in a survey of nearly 200 retailers of various sales sizes by the Produce Division of the National Association of Retail Grocers in 1952. This survey found, also, that on the average, produce sales accounted for 14 percent of total retail-store sales.

PROCESSED FRUITS AND VEGETABLES

Processing costs account for a major part of the farm-retail spread for processed fruits and vegetables. Retailing, wholesaling, and transportation generally take a smaller share of the retail price than for fresh fruits and vegetables.

In a study conducted for the 1949–50 season (latest available data) the Department found that retailing accounted for between 17 and 22 percent of the retail price for canned fruits and vegetables and 19 to 21 percent for frozen fruits and vegetables (table 27).

The wholesaler's margin for canned items varied between 3 and 8 percent of the total retail price. For the frozen items, the range was between 9 and 12 percent. Higher storage and delivery costs partly accounted for the higher margin for frozen items at the wholesale level.

Transportation of canned fruits and vegetables from the processing plant to the wholesale distributor accounted for between 5 and 13 percent of the retail price. For frozen foods, transportation made up between 3 and 7 percent of the total retail price. Higher unit value of frozen foods in relation to weight and distance to market lowered the transportation portion of the retail price.

About two-thirds of the consumer dollar spent on the canned and frozen items in this 1949–50 study went for processing costs and returns to the grower for the raw product. The percentages ranged from 63 percent for frozen peaches to 72 percent for canned tomatoes. Other studies indicate that the greater part of this grower-processor return is the processor's gross margin.

TABLE 27.—*Processed fruits and vegetables: Average margins as a percentage of retail price, 22 cities, 1949–50 season*

Product	Retailing	Wholesaling	Transportation	Processing and raw product	Total
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Canned fruits and vegetables:					
Cling peaches	19.0	4.8	13.1	63.1	100.0
Freestone peaches	17.1	6.3	10.1	66.5	100.0
Bartlett pears	17.9	6.7	10.0	65.4	100.0
Green beans	20.4	7.5	4.8	67.3	100.0
Sweet corn	21.9	5.8	5.0	67.3	100.0
Green peas	18.4	5.5	5.4	70.7	100.0
Tomatoes	19.2	3.4	5.1	72.3	100.0
Frozen fruits and vegetables:					
Peaches	21.1	9.4	6.9	62.6	100.0
Strawberries	19.2	8.9	4.2	67.7	100.0
Baby lima beans	20.7	11.9	3.1	64.3	100.0
Peas	20.8	9.8	4.9	64.5	100.0

"Price Spreads in the Marketing of Canned and Frozen Fruits and Vegetables," (*255*, pp. 10–11).

In a study of the farm-retail spread for frozen peas in 1951, the following breakdown of the retail price was estimated (*303*).

	Percent
Farmer	19
Processor (including transportation)	58
Supermarket (including wholesaling)	23
	100

A study of price spreads for canned peaches, green beans, peas, tomatoes, and vacuum packed and regular canned corn made by the staff of the Senate Committee on Agriculture and Forestry for January-March 1955 revealed that the grower received from 12 percent of the retail selling price for tomatoes to 25 percent for peas. The canner's gross margin, which included all costs of containers and supplies (not raw products), all operating expenses, taxes, and profits, varied from 48 percent of the total spread for peaches to 62 percent for vacuum packed whole-kernel corn. The distributor's gross margin (difference between the canner's price and the retail selling price, including all transportation charges from factory to retail store) ranged from 17 percent for vacuum packed corn to 34 percent for peaches. The retailer's margin accounted for the larger part of the overall distribution charges (*258*).

Labor is a major cost component in processing fruits and vegetables. Average hourly earnings of employees in the canning and preserving industry rose to $1.57 in 1956 from $1.04 in 1947, an increase of 50 percent. Hourly earnings in this industry average lower than for all food processing; between 1947 and 1956 the increase in the canning and preserving industry was less than the average increase for all food-processing employees. The number of production workers in the canning and preserving industry has changed very little. In 1956, the number of workers was the same as in 1947 (table 28).

Raw product costs accounted for the largest single component of the costs of fruit and vegetable canners in 1954–55 (table 29). Containers and labels were the next largest cost. Labor costs accounted for 11 percent of sales for vegetable canners and 15 percent for fruit canners. Gross income as a percentage of sales was higher for vegetable canners than for fruit canners but net income before taxes and net profits were higher for fruit canners. Compared with 1950-51, costs of raw products as a percentage of all costs to manufacturers were about the same in 1954–55 for vegetable canning but declined somewhat for fruit canning. Labor costs as a percentage of all costs for canning vegetables declined in this period but were the same for canning fruits.

TABLE 28.—*Average hourly earnings and number of production workers in the canning and preserving industry, 1947–56* [1]

Year	Hourly earnings		Number of production workers	
	Actual	1947–49 =100	Actual	1947–49 =100
	Dollars		*(Thousands)*	
1947	1.04	95	210.7	102
1948	1.12	102	209.8	102
1949	1.13	103	197.6	96
1950	1.19	108	196.6	95
1951	1.27	115	204.2	99
1952	1.32	120	197.9	96
1953	1.36	124	207.0	100
1954	1.41	128	195.1	95
1955	1.46	133	199.7	97
1956	1.57	143	209.8	102

[1] BLS series on employment, hours, and earnings.

TABLE 29.—*Costs, income, and profits: Representative canners of fruits and vegetables, fiscal year 1954–55* [1]

Item	Vegetable canners [2]	Fruit canners [3]
	Percent	*Percent*
Gross sales	100.0	100.0
Cost of manufacturing:		
Raw product	30.4	33.2
Labor	10.8	15.2
Containers and labels	27.1	21.5
Other manufacturing expenses	11.4	15.1
Total	79.7	85.0
Gross income	20.3	15.0
Marketing and administrative expense [4]	14.5	10.0
Net income on canning operation	5.8	5.0
Other income or expense (—)	[5] —5.1	.1
Net income before taxes	.7	5.1
Federal income taxes	.4	2.5
Net profit	.3	2.6

[1] Based on data from "Price Spreads in the Canning Industry: Staff Study of Income, Costs and Profits in the Canning Industry Fiscal Year 1954–55," (*258*, p. 2).

[2] Includes some canners who also pack apples and applesauce.

[3] Includes canners who also pack some vegetables.

[4] Includes warehousing and shipping expense.

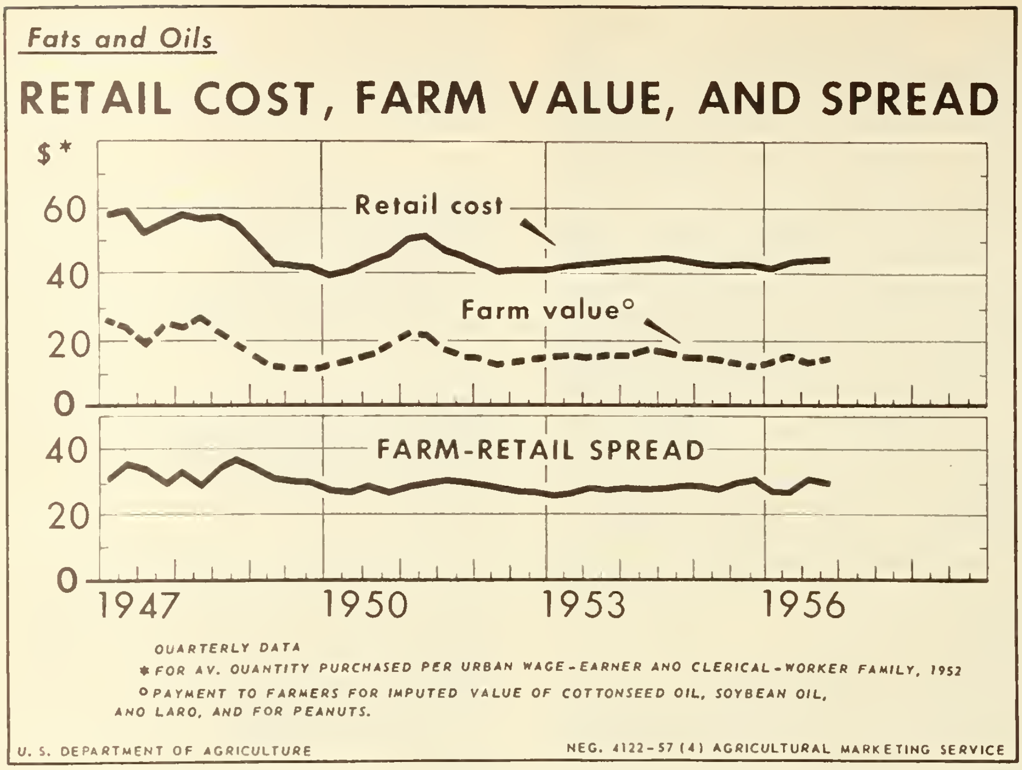
[5] Mostly inventory losses.

Profits after taxes of leading canning and food preserving companies averaged 8.2 percent of stockholders' equity in 1956, 50 percent above the average in 1935–39. During the past 20 years this rate has ranged between 5.4 percent in 1949 and 18.4 percent in 1946. Their profits were 2.9 percent of sales in 1956, only slightly lower than in 1935–39. During the 20-year period, the rate on sales has ranged between 2.3 percent in 1953 and 6.1 percent in 1946 (tables 6 and 7, pp. 10-11).

FATS AND OILS

The fats and oils group of the market basket is composed of vegetable oil products, lard, and peanut butter. The retail cost of this group of products is approximately 5 percent of the total retail cost of the market basket. Vegetable shortening accounts for about one-third of the total retail cost of the group, margarine for about one-fourth, salad dressing for approximately one-fifth, with peanut butter and lard making up the remainder.

Most of the oil in vegetable shortening, margarine, and salad dressing is cottonseed and soybean oil. For purposes of computing the price spreads, all of the oil content was assumed to be cottonseed and soybean oil. Farm values per pound of oil are obtained by imputing part of the value of cottonseed and soybeans to oil on the basis of mill values of the products. Cottonseed and soybean oil account for around two-thirds of the farm value of the fats and



QUARTERLY DATA

* FOR AV. QUANTITY PURCHASED PER URBAN WAGE-EARNER AND CLERICAL-WORKER FAMILY, 1952

° PAYMENT TO FARMERS FOR IMPUTED VALUE OF COTTONSEED OIL, SOYBEAN OIL, AND LARD, AND FOR PEANUTS.

U. S. DEPARTMENT OF AGRICULTURE NEG. 4122-57 (4) AGRICULTURAL MARKETING SERVICE

FIGURE 27

oils group, with the remainder being the value of milk, eggs, and sugar in margarine and salad dressing, the farm value of peanuts, and the farm value of lard.

Unlike most product groups, the trend in the farm-retail spread for the fats and oils group was downward from 1947 through the first quarter of 1953. But the spread increased slightly during 1953–55 (fig. 27). The 1956 average was a little below the average for 1955. The lowest quarterly spread was in the first quarter of 1953.

Vegetable Shortening.—Price spreads for vegetable shortening—a product which is practically 100 percent oil—give a better indication of trends for vegetable oil products than do the spreads for the group, which contains lard. Retail price and farm value trends are similar to those for the group because of the influence of vegetable oil products in the group totals.

Both the retail price and farm value of vegetable shortening dropped sharply during 1948 and 1949, rose during 1950 and the first half of 1951, then tended to level off. Quarterly farm-retail spreads for 3 pounds of vegetable shortening fluctuated between 50 and 60 cents for most quarters from the middle of 1949 through the first half of 1956. The spread covers all phases of processing and distribution. Production of vegetable oil products is in several stages—crushing of the cottonseed and soybeans, refining and purifying of the oil, and manufacturing the finished product. Data for determining trends in average margins for the various processes are limited. In the last few years more research has been done on cottonseed and soybean crushing than at other stages. The margin of crushers, however, accounts for only a small part of the total spread.

In a recent study (*183*) estimates were made of the values attributable to oil embodied in margarine and shortening at each of the successive steps in the marketing process (table 30). These are the values for quantities of soybeans, cottonseed, and crude oil required for 100 pounds of refined oil (less value at-

TABLE 30.—*Value attributable to 100 pounds of refined soybean and cottonseed oil in products at the principal steps in the marketing channel, four selected cities, January 1956*

Product	Value per 100 pounds of refined oil [1]	
	Soybean oil	Cottonseed oil
	Dollars	*Dollars*
Soybeans	10.65	
Cottonseed		7.87
Crude oil	12.07	12.84
Refined oil	13.83	13.58
Hydrogenated oil	15.85	16.10
Margarine (retail)	32.51	32.47
Shortening (retail)	33.03	33.03

[1] Averages of values in New York, Chicago, Atlanta, and Los Angeles, compiled from data in "Marketing Margins for Soybean and Cottonseed Oils Used in Margarine and Shortening" (*183*).

tributed to joint products) and the value of quantities of margarine and shortening which are produced from 100 pounds of refined oil. These data illustrate that the largest part of the total farm-retail spread is in the manufacturing and distribution of the final product.

The following series for cottonseed oil and vegetable shortening were used to give some indications of trend in margins at different levels of marketing: Value of crude cottonseed oil at southeastern mills, wholesale price of hydrogenated shortening made of cottonseed oil (in 400-pound drums) New York; and retail price of vegetable shortening in 1 pound containers in New York (fig. 28).[22]

The most noticeable facts about the total spread between value of crude oil at southeastern mills and the retail price of vegetable shortening in New York are the absence of the upward trend which occurred in spreads for most other products and the wide fluctuations in 1947 and 1948. The trend in spread between mill value of oil and wholesale price of shortening and the trend in wholesale-retail spread were generally similar, with considerable fluctuation in both series.

FACTORS THAT AFFECT MARGINS FOR VEGETABLE OIL PRODUCTS

Type of Mill.—Although the margin of oil mills is a small part of the total farm-retail spread, increased efficiencies of crushing mills have contributed to the rather constant level of farm-retail spreads for vegetable oil products. The number of active screw-press mills has declined and the active mills of this type have operated at a lower level of capacity. The number of solvent-extraction mills has increased steadily and these mills have operated at a higher level of capacity. Operating at a higher level tends to decrease the per-unit cost of operation and enables the industry to operate on smaller margins. A higher yield of oil per bushel of soybeans and per ton of cottonseed obtained in the solvent-extraction mills has also tended to reduce costs per pound of oil.

Size of Output.—Production of margarine increased from 746 million pounds in 1947 to 1,369 million pounds in 1956; vegetable shortening increased from 1,374 million pounds in 1947 to 1,975 million pounds in 1955, and dropped to 1,842 million pounds in 1956. Other food uses of vegetable oils increased about 73 percent between 1947 and 1956 (table 31). These large increases in production have tended to keep unit costs from rising. Fixed costs, which generally decline faster with increased production than do variable costs, probably

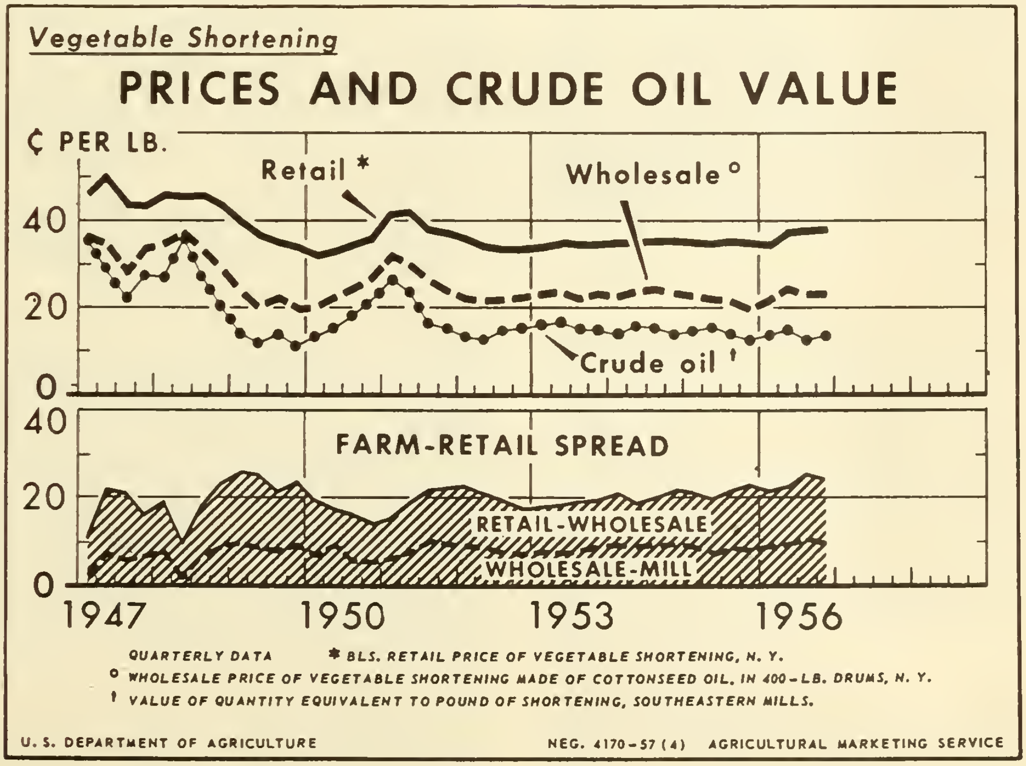


FIGURE 28

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[22] The price of crude oil was multiplied by the quantity of crude oil necessary for a pound of refined oil. BLS began pricing vegetable shortening in 3-pound containers in Aug. 1955. Prices of shortening in 1-pound containers were derived from these prices.

TABLE 31.—*Production of oil products, 1947–56* [1]

Year	Margarine	Shortening	Other edible oils [2]
	Million pounds	*Million pounds*	*Million pounds*
1947	746	1,374	988
1948	908	1,441	1,037
1949	862	1,487	1,163
1950	937	1,710	1,297
1951	1,041	1,403	1,168
1952	1,286	1,611	1,339
1953	1,292	1,675	1,416
1954	1,364	1,961	1,505
1955	1,333	1,975	1,647
1956	1,369	1,842	1,707

[1] Made primarily from vegetable oils.

[2] Civilian disappearance.

The Fats and Oils Situation (FOS-178), Agricultural Marketing Service, pp. 22 and 23.

are a larger percentage of total costs for processing vegetable oil products than for many other processed foods.

Labor Costs.—Average hourly earnings of employees in the vegetable and animal oils industry, reported by BLS, increased about 67 percent between 1947 and 1956, but the increase per unit was probably less because of increased efficiencies.

The importance of labor in processing and the increase between 1947 and 1954 are shown by census data. Wages of production workers in the shortening and cooking oils industry accounted for 16 percent of value added in 1954, compared with 10 percent in 1947. Salaries and wages of all employees were 24 percent of value added in 1954 and 15 percent in 1947. Similar increases occurred in margarine manufacturing plants, cottonseed crushing mills, and soybean mills (table 32). Labor costs are a smaller part of processing costs for these oil processing industries than for most food processing industries, and the effect of increased labor costs has been counteracted by other factors influencing margins.

TABLE 32.—*Wages and salaries as percentage of value added by manufacture* [1]

Type of employee and industry group	1947	1954
	Percent	*Percent*
Production and related workers:		
Shortening and cooking oils	10.1	15.7
Oleomargarine manufacturing plants	12.1	14.9
Cottonseed crushing mills	21.6	29.5
Soybean crushing mills	12.8	19.3
All employees:		
Shortening and cooking oils	15.1	24.1
Oleomargarine manufacturing plants	19.1	24.6
Cottonseed crushing mills	30.0	42.6
Soybean crushing mills	17.8	27.5

[1] Value added by manufacture is the difference between value of shipments and cost of raw materials, supplies and containers, fuel and electric energy, and contract work.

Compiled from 1954 Census of Manufactures, Bul. MC-28G, "Vegetable and Animal Oils" and MC-20H, "Miscellaneous Food Preparations."

Container Cost.—One of the cost factors in the manufacture and distribution of vegetable oil products is the cost of containers. Wholesale prices of containers for vegetable oil products are not available, but changes in cost of tin cans, glass containers, and wax paper give an indication of changes in container costs for these products. Price increases between 1947 and 1956 were: Tin cans, 59 percent; glass containers, 73 percent; and wax paper, 46 percent (table 5, p. 9).

THE MARKETING BILL

Consumer expenditures for food products are made up of two parts: (1) Payments to farmers, which represent primarily returns for the production of raw materials used in food products and (2) payments to agencies that assemble and process these raw materials and perform other functions necessary to get food products to consumers in the form, time, and place they desire. The services performed by these agencies are referred to as "marketing services" and the payments for these services make up the "marketing bill." The marketing bill is affected by variations in total volume of food marketed, variations in unit marketing charges, and changes in marketing services that consumers are buying with their food products.

"Per unit" marketing charges (farm-retail spread) and factors affecting them were discussed in the preceding chapters. Cost and profit components of the marketing bill and factors influencing trends such as changes in volume marketed and services provided by marketing agencies are considered in this chapter.

Description of Series.—Estimates of aggregate payments to farmers for food products for domestic civilian consumption, the retail-store cost of the food, and the total charges for getting it from farms to consumers are given in table 33. The retail cost is measured at the retail-store level and therefore does not include any costs of services in restaurants and other eating places.[23] Neither does it include costs of nonfarm foods such as coffee, tea, and fish, nor the cost of imported food. Values for individual food items are combined into six commodity groups corresponding roughly to the groups in the market basket—except that lard is included in the meat products group and the miscellaneous products group is made up of fats and oils other than lard and other miscellaneous products.

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[23] Estimates of expenditure for all food marketed from U. S. farms and bought by civilian consumers regardless of point of purchase were published in an article "The Farmer's Share: Three Measurements" (*14*).

TABLE 33.—*Marketing bill for farm food products purchased by domestic civilian consumers, retail cost and farm value, all farm foods and 5 major commodity groups, annual 1913–56* [1]

Year	All farm foods [2]			Meat products			Dairy products			Poultry and eggs			Bakery and cereal products			Fruits and vegetables		
	Farm value	Retail cost	Marketing bill	Farm value (3)	Retail cost	Marketing bill	Farm value (3)	Retail cost	Marketing bill	Farm value (3)	Retail cost	Marketing bill	Farm value (3)	Retail cost	Marketing bill	Farm value (3)	Retail cost	Marketing bill
	Billion dollars	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*
1913	3.53	7.41	3.88	1.35	2.26	0.91	0.62	1.23	0.61	0.45	0.66	0.21	0.44	1.42	0.98	0.55	1.44	0.89
1914	3.64	7.91	4.27	1.35	2.26	.91	.64	1.28	.64	.47	.67	.20	.49	1.62	1.13	.58	1.69	1.11
1915	3.63	7.99	4.36	1.21	2.16	.95	.66	1.33	.67	.48	.68	.20	.59	1.74	1.15	.56	1.61	1.05
1916	4.35	9.47	5.12	1.50	2.49	.99	.74	1.44	.70	.53	.75	.22	.68	1.99	1.31	.71	2.17	1.46
1917	6.05	12.40	6.35	2.03	3.03	1.00	.94	1.68	.74	.68	.94	.26	1.15	2.78	1.63	.97	3.10	2.13
1918	6.87	13.19	6.32	2.51	3.96	1.45	1.09	1.88	.79	.83	1.19	.36	1.05	2.45	1.40	1.04	2.72	1.68
1919	7.55	15.22	7.67	2.50	4.14	1.64	1.34	2.38	1.04	1.03	1.45	.42	1.21	2.90	1.69	1.13	3.33	2.20
1920	7.36	16.52	9.16	2.15	4.12	1.97	1.40	2.53	1.13	1.10	1.58	.48	1.17	3.16	1.99	1.30	4.21	2.91
1921	5.05	12.57	7.52	1.40	3.45	2.05	1.15	2.34	1.19	.77	1.16	.39	.62	2.42	1.80	.95	2.64	1.69
1922	5.19	12.88	7.69	1.56	3.49	1.93	1.14	2.31	1.17	.75	1.12	.37	.59	2.36	1.77	.99	2.97	1.98
1923	5.62	14.00	8.38	1.58	3.77	2.19	1.39	2.65	1.26	.83	1.24	.41	.59	2.43	1.84	1.03	3.15	2.12
1924	5.87	14.51	8.64	1.73	4.07	2.34	1.34	2.59	1.25	.86	1.31	.45	.67	2.52	1.85	1.06	3.31	2.25
1925	6.77	15.73	8.96	2.10	4.28	2.18	1.47	2.83	1.36	.96	1.41	.45	.87	2.81	1.94	1.15	3.60	2.45
1926	6.95	16.38	9.43	2.18	4.35	2.17	1.53	2.93	1.40	1.03	1.49	.46	.80	2.87	2.07	1.22	3.96	2.74
1927	6.72	16.23	9.51	2.04	4.25	2.21	1.62	3.09	1.47	.96	1.40	.44	.74	2.90	2.16	1.14	3.75	2.61
1928	6.94	16.27	9.33	2.11	4.28	2.17	1.69	3.19	1.50	1.05	1.53	.48	.74	2.98	2.24	1.13	3.47	2.34
1929	7.22	17.08	9.86	2.23	4.45	2.22	1.76	3.33	1.57	1.12	1.70	.58	.68	2.86	2.18	1.21	3.89	2.68
1930	6.33	16.15	9.82	1.94	4.25	2.31	1.57	3.13	1.56	.93	1.51	.58	.56	2.78	2.22	1.13	3.68	2.55
1931	4.66	13.06	8.40	1.37	3.58	2.21	1.25	2.66	1.41	.71	1.20	.49	.35	2.24	1.89	.86	2.84	1.98
1932	3.40	10.61	7.21	.91	2.67	1.76	.97	2.21	1.24	.54	.88	.34	26	1.91	1.65	.61	2.29	1.68
1933	3.56	10.93	7.30	.92	2.61	1.68	.96	2.17	1.21	.48	.80	.32	.34	2.00	1.60	.73	2.59	1.86
1934	4.27	12.52	7.92	1.13	3.26	1.90	1.12	2.36	1.24	.58	.98	.40	.47	2.38	1.81	.80	2.83	2.03
1935	5.02	12.94	7.58	1.49	3.39	1.70	1.29	2.58	1.29	.75	1.09	.34	.52	2.41	1.75	.79	2.81	2.02
1936	5.78	14.29	8.51	1.79	3.79	2.00	1.42	2.81	1.39	.77	1.16	.39	.58	2.51	1.93	1.00	3.22	2.22
1937	5.98	14.18	8.20	1.90	3.95	2.05	1.49	2.90	1.41	.81	1.24	.43	.61	2.53	1.92	.95	2.76	1.81
1938	5.20	13.39	8.18	1.71	3.57	1.86	1.32	2.72	1.40	.77	1.16	.39	.41	2.42	2.01	.78	2.56	1.78
1939	5.17	13.37	8.19	1.69	3.54	1.85	1.32	2.76	1.44	.72	1.10	.38	.39	2.26	1.87	.86	2.79	1.93
1940	5.6	14.1	8.5	1.8	3.7	1.9	1.5	3.0	1.5	.8	1.2	.4	.4	2.3	1.9	.9	2.9	2.0
1941	7.1	16.3	9.2	2.5	4.3	1.8	1.7	3.4	1.7	1.0	1.4	.4	.5	2.5	2.0	1.1	3.3	2.2
1942	9.3	19.8	10.5	3.2	4.9	1.7	2.1	4.1	2.0	1.4	2.0	.6	.7	2.9	2.2	1.5	4.1	2.6
1943	11.4	22.3	11.1	3.6	5.2	1.8	2.3	4.3	2.0	2.0	2.7	.7	.9	3.3	2.4	2.1	5.0	2.4
1944	11.6	22.5	11.4	3.7	5.3	1.9	2.5	4.5	2.0	1.8	2.5	.7	.9	3.1	2.3	2.3	5.3	3.1
1945	12.6	24.4	12.5	3.7	5.0	1.7	2.6	4.8	2.2	2.3	3.1	.8	1.0	3.5	2.6	2.5	6.4	4.0
1946	15.7	30.8	15.6	5.2	7.3	2.4	3.5	6.3	2.8	2.4	3.4	1.0	1.3	4.2	3.0	2.6	7.2	4.7
1947	18.7	36.5	17.8	7.4	11.0	3.6	3.7	6.6	2.9	2.6	3.8	1.2	1.5	4.8	3.3	2.6	7.5	4.9
1948	19.2	39.0	19.8	7.6	11.6	4.0	4.1	7.4	3.3	3.0	4.3	1.3	1.4	5.3	3.9	2.4	7.6	5.2
1949	17.1	37.9	20.8	6.7	10.8	4.1	3.5	6.8	3.3	2.8	4.1	1.3	1.2	5.5	4.3	2.3	7.9	5.6
1950	17.7	38.9	21.2	7.4	11.5	4.1	3.5	6.9	3.4	2.5	3.9	1.4	1.3	5.5	4.2	2.3	8.0	5.7
1951	20.2	43.0	22.8	8.1	12.4	4.3	4.0	7.7	3.7	3.3	4.8	1.5	1.4	6.1	4.7	2.6	8.7	6.1
1952	20.1	44.5	24.4	7.7	12.5	4.8	4.3	8.2	3.9	3.1	4.6	1.5	1.4	6.2	4.8	2.9	9.6	6.7
1953	19.0	44.6	25.6	7.2	12.3	5.1	3.9	8.0	4.1	3.3	4.8	1.5	1.4	6.3	4.9	2.5	9.5	7.0
1954	18.3	44.9	26.6	7.2	12.5	5.3	3.7	8.1	4.4	2.7	4.3	1.6	1.4	6.5	5.1	2.6	9.8	7.2
1955	18.3	46.2	27.9	6.7	12.7	6.0	3.9	8.5	4.6	2.9	4.5	1.6	1.3	6.6	5.3	2.6	10.1	7.5
1956 [4]	18.8	47.7	28.9	6.6	12.8	6.2	4.1	8.9	4.8	2.9	4.7	1.8	1.3	6.7	5.4	2.9	10.7	7.8

[1] The retail-cost estimates represent the cost at retail-store prices of all domestic farm foods that were both sold by farmers and bought by civilian consumers in this country. Farm food products sold in the form of meals are included but are valued at what the food would have cost in retail stores. Farm value is adjusted to eliminate imputed value of nonfood by-products. The marketing bill, or total marketing margin, is equal to the difference between the farm value and retail cost except for the years 1933–35 and 1943–46 in which the marketing bill for some groups is adjusted for processor taxes or Government payments to processors.

[2] Includes vegetable-oil products, sugar, and other miscellaneous food products in addition to the five commodity groups given in this table.

[3] The estimated farm values of milk, eggs, fruits, lard, and vegetable shortening used in bakery products were deducted from the farm values of other commodity groups and added to the farm value of the bakery and cereal products group.

[4] Preliminary estimates. Some of the data for 1947 and later years are revisions of previous estimates.

In general, the basic data for the *farm value* series are Agricultural Marketing Service cash receipts to farmers from sale of individual food products or groups of products. The farm value is only that part of the cash receipts allocated to food for civilian use. The method of allocating makes allowance for nonfood use, food for export and military use, interfarm sales, and changes in stocks. For some products a further adjustment is made for value of by-products.

Adjustments are made in cash receipts of some product groups to allow for the value of farm products, other than grain, that are used in the baking industry—eggs, fruits, milk, shortening, and sugar. For example, the farm value and retail cost for poultry and eggs do not include the estimated value of eggs used in the baking industry and bought by consumers in the form of bakery products.

The method of estimating *retail cost* varies by commodity groups, depending on availability of data. For most food items, however, the retail cost is estimated by dividing adjusted cash farm receipts by the farmer's share percentage from market basket calculations.

Increases in marketing services may not be reflected fully in the marketing bill and retail cost because adequate data on prices and volumes are often lacking. Where reasonably good estimates of prices and volumes can be made, allowance was made for effects of changes in marketing services, such as the increased proportion of potatoes sold in the form of potato chips, or the additional cost resulting from the shifts to smaller can sizes for canned fruits and vegetables.

The Department of Commerce estimates total expenditures by consumers for all food. Their estimates include the following categories not covered in the AMS estimates of the retail-store cost of farm-produced foods: (1) Food furnished by the Government to members of the Armed Forces; (2) nonfarm foods such as seafoods, chewing gum, and other similar products; (3) imported foods such as coffee, bananas, and pineapple; and (4) foods consumed on farms where produced. In addition to the added categories, foods served in restaurants and other eating places are valued at prices paid for meals, which are considerably above retail-store prices.

TRENDS, 1913–56

During the period 1913–56, the retail cost, farm value, and marketing bill tended to move continually upward because of the steady increase in volume of food products marketed (fig. 29). In general, however, the marketing bill fluctuated less than the other two series. The only significant decreases in the marketing bill were in 1921 and again in the early 1930's when per unit marketing charges declined significantly.

The marketing bill has increased steadily since 1940 because per unit marketing charges (as measured by the farm-retail spread of the market basket) have increased almost every year, in addition to increased volume and services provided. Farmers' receipts from sales of food products in recent years were near the 1947–49 average because lower farm prices of food products were offset by increased volume of sales. The rise in the retail-store cost of 11 billion dollars between 1947 and 1956 was accompanied by a similar increase in the marketing bill.

A substantial part of the increase of more than 20 billion dollars in the marketing bill between 1940 and 1956 was caused by the general increase in cost levels associated with the inflationary price rises since 1940. Unit marketing charges, as measured by the farm-retail spread for the market basket, more than doubled in this period)table 48, p. 100).

Volume increases accounted for most of the remaining increase in the marketing bill between 1940 and 1956. The volume of farm food products marketed for domestic civilian consumption increased by almost 45 percent.[24]

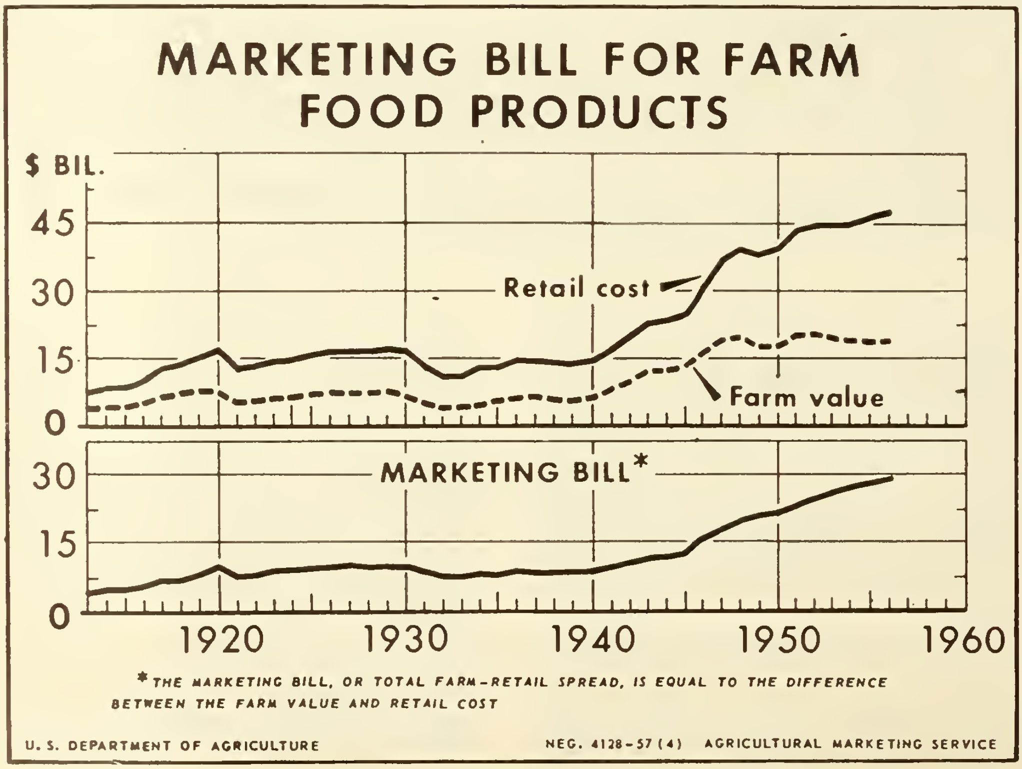

FIGURE 29

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[24] In computing this index, farm marketings of food products equivalent to civilian consumption were weighted by average prices received by farmers. The volume of food consumed on farms where produced and nonfood byproduct uses were deducted from total civilian consumption. The trend of this index is roughly similar to the food component of the AMS index of volume of farm marketings and the AMS index of per capita food consumption multiplied by an index of civilian population. However, the former index does not take account of changes in stocks, exports, and nonfood uses while the latter index includes imported foods and home-produced foods.

This increase in volume exceeded the increase in total civilian food consumption because of the larger proportion of the food supply moving through the marketing system. The change in nonfarm population is the principal factor affecting the volume of food going through the marketing system. Although civilian population increased only a little more than a fourth between 1940 and 1956, the nonfarm population rose by more than 40 percent. The number of people living on farms actually declined during this period and the proportion of the total population living on farms declined from 23 to 13 percent.

EFFECTS OF ADDED MARKETING SERVICES

Consumers are buying more processed, ready-prepared, and convenience foods now than ever before. But these added marketing services, the so-called built-in maid services, do not seem to account for a major part of the rise in the marketing bill in recent years which, as noted in the preceding section, was largely the result of increases in volume and unit marketing charges.[25]

Several factors seemingly account for this. In the first place, many of the processed and prepared foods on today's grocery shelves cost little if any more than the same food in a less highly processed form. The savings in costly transportation and storage of highly perishable products and, in some instances, substantial economies resulting from new technology have offset the cost of added processing for many products. Frozen concentrated orange juice is an outstanding example of savings in transportation more than offsetting added processing costs. Furthermore, the modern homemaker is still price conscious to the extent that the convenience foods that give her the best bargains are the ones that have set the best sales record. Many of the frozen fruits, vegetables, and juices, as well as cake mixes and cut-up, ready-to-cook chicken, are examples of these "low-cost" processed foods with high sales volume.

Secondly convenience foods such as TV dinners and other ready-to-serve foods are only a small part of the average homemaker's food budget. So-called staples like milk, bread, meat, eggs, potatoes, and others make up a major part of most household food budgets. Moreover, many processed products such as canned fruits and vegetables, bread, crackers, and other bakery products are not new shopping items to most homemakers.

Another factor tending to offset costs of more services in marketing some products is the increasing importance of meats and animal products relative to cereal products and potatoes. The volume of poultry and eggs marketed for domestic civilian consumption in 1956 was about double that in 1940 while the volume of grains used for food products was the same as in 1940, reflecting a substantial decline per person. The red meats also increased at the expense of the grains and the fruit and vegetable groups. It is true that more processing, packaging, and other services were added to many products in all product groups. But the shift in consumer purchases to product groups for which marketing resource use is low and farm resource use is high has kept the marketing bill from increasing as much as if the volume of all product groups had increased at about the same rate.

The increased importance of the animal products groups has slowed down the rise in the marketing bill in another manner. The average increase between 1940 and 1956 in per unit marketing charges for meat products, dairy products, and poultry and eggs was less than for bakery and cereal products and fruits and vegetables.

Some changes in marketing services such as the trend toward smaller containers seem definitely to have added to total costs. A given quantity of any product usually costs more in small-sized packages than in medium or larger packages because of added costs of packaging materials, labor, and handling costs. For example, the shift from No. 2 cans to No. 303 cans for many vegetables increased can costs, which are a signficant cost factor in that industry.

Consumers seem willing to pay more for the convenience of the smaller package. Buying in smaller quantities may be less expensive for consumers if only a small quantity is needed and the remainder cannot be saved and used at another time. Sometimes the change to smaller retail units may be a method of increasing the price during periods of consumer resistance to price increases.

Not all changes in marketing services have resulted in additions. Less delivery service is provided by retail stores than formerly. An increasing proportion of milk is being sold in stores and more milk is sold in larger size containers.

Because of these many offsetting influences, no completely satisfactory measurement or conclusions can be made concerning the total effect of added marketing services on the rise in the marketing bill.

COMMODITY GROUPS IN THE MARKETING BILL

The marketing bill for fruits and vegetables in 1955 was larger than for any other group, making up about one-fourth of the total. Meat products accounted for slightly more than a fifth of the total marketing bill, bakery and cereal products slightly less than a fifth, dairy products about a sixth, and poultry and eggs only about 5 percent. Compared with the 1935–39 average, these proportions have not changed markedly although the marketing bill for fruits and vegetables has increased relative to other groups. This increase was caused partly by more processing of fruits and vegetables and partly by the increased transportation haul for fresh items.

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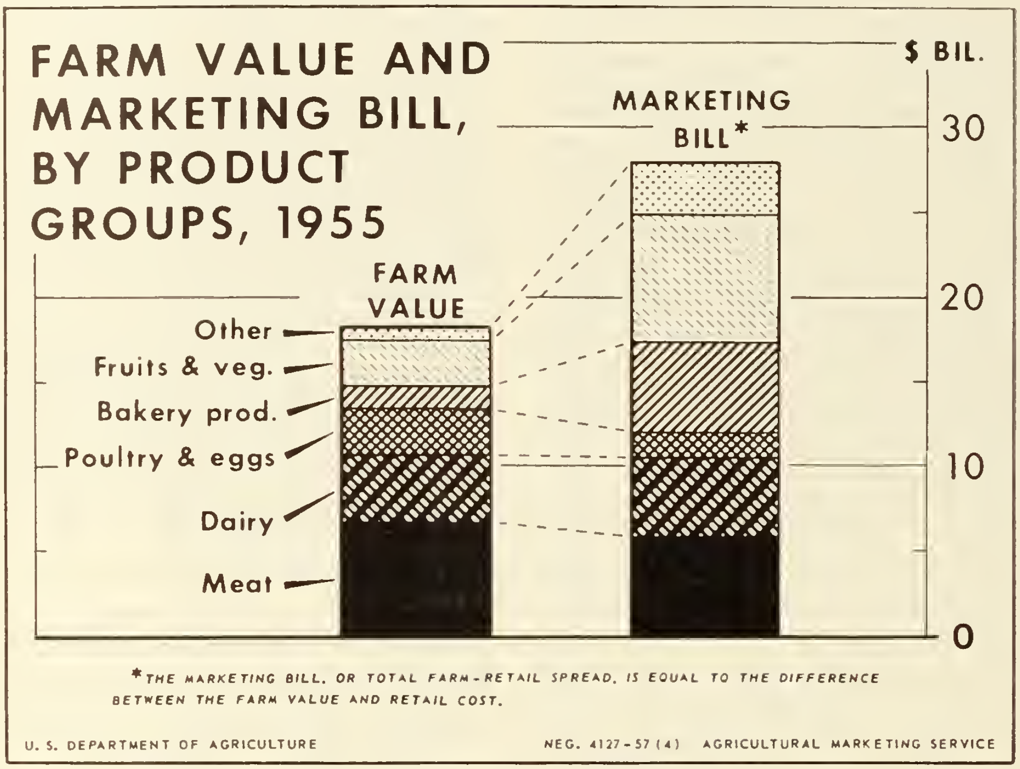
[25] As the marketing bill in table 33 measures charges up to the retail store and not the added costs of foods purchased in eating places, the costs of these additional services are not included in these comparisons.

The relative importance of product groups in farmers' cash receipts from sale of these food products (farm value, table 33) is markedly different from that in the marketing bill. These differences reflect variations in the relative contributions of farmers and others who process and distribute food products (fig. 30). For example, two groups—fruits and vegetables and bakery and cereal products—in 1955 accounted for 45 percent of the marketing bill but for only 20 percent of farmers' cash receipts. The three livestock and livestock products groups—meat products, dairy products, and poultry and eggs—represented 75 percent of farmer's cash receipts but less than half of the marketing bill.



*THE MARKETING BILL, OR TOTAL FARM-RETAIL SPREAD, IS EQUAL TO THE DIFFERENCE BETWEEN THE FARM VALUE AND RETAIL COST.

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Figure 30

COST AND PROFIT COMPONENTS

Direct labor costs made up 47 percent of the marketing bill for farm food products in 1956, intercity transportation costs 11 percent, corporate profits (before taxes) about 6 percent, and "all other" 35 percent (table 34). The residual of 34 percent includes rents, plant maintenance and equipment expenses, costs of supplies and containers, short-haul transportation, taxes other than income and excess profits, and various other expense items, as well as profits of noncorporate firms.

All cost components have increased since 1939 (fig. 31), with no marked changes in the proportions that each is in the marketing bill, especially in recent years. Labor's share increased somewhat following World War II until 1952; this rise may reflect the rapid rise in wage rates following wartime wage controls and the generally smaller rise in productivity in the immediate postwar period compared with more recent years. Transportation costs averaged 12 percent of the total bill in postwar years, compared with an average of 10 percent in the war years. The part of the marketing bill represented by corporate profits ranged from less than 5 percent before World War II to a peak of almost 11 percent in 1946.

In recent years labor, transportation, and other costs have become a larger proportion of the total retail cost of farm foods sold to civilian consumers, mainly because of the smaller

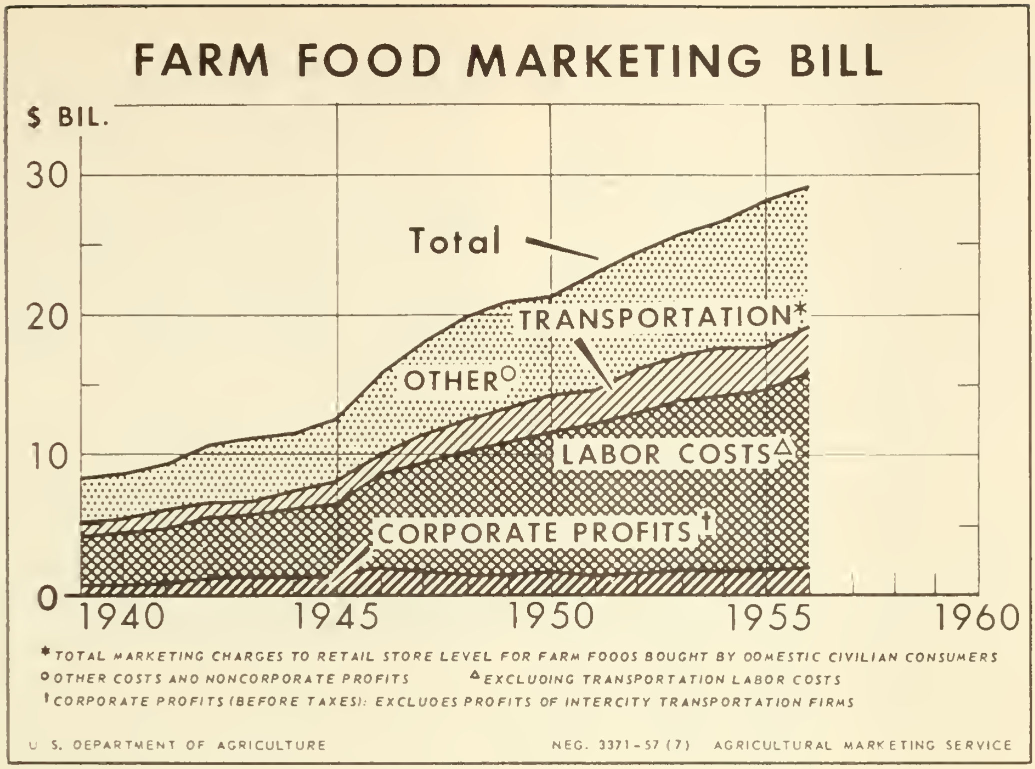

FIGURE 31

TABLE 34.—*Corporate profits, labor, transportation, and other costs for marketing farm food products, United States, 1939–56*

Year	Corporate profits [1]		Labor [2]	Transportation (including labor)	Other [3]	Total marketing bill
	Before taxes	After taxes				
	Billion dollars	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*	*Billion dollars*
1939	0.4	0.3	3.7	1.0	3.1	8.2
1940	.4	.3	3.9	1.0	3.2	8.5
1941	.6	.4	4.1	1.2	3.3	9.2
1942	.9	.4	4.5	1.0	4.1	10.5
1943	1.0	.5	4.6	1.0	4.5	11.1
1944	1 0	.4	5.0	1.1	4.3	11.4
1945	1.0	.5	5.5	1.3	4.7	12.5
1946	1.7	1.0	6.7	1.6	5.6	15.6
1947	1.5	.9	7.9	2.0	6.3	17.7
1948	1.2	.7	8.9	2.2	7.5	19.8
1949	1.3	.8	9.4	2.4	7.7	20.8
1947–49 average	1.3	.8	8.7	2.2	7.3	19.5
1950	1.6	.9	9.9	2.6	7.1	21.2
1951	1.3	.6	10.6	2.7	8.2	22.8
1952	1.4	.6	11.4	3.1	8.5	24.4
1953	1.5	.7	12.1	3.3	8.7	25.6
1954	1.5	.7	12.6	3.5	9.0	26.6
1955	1.6	.8	13.0	3.1	10.2	27.9
1956 [4]	1.8	.9	13.9	3.3	9.9	28.9

[1] Total corporate profits are those received from the marketing of farm produced and domestically consumed food products by corporate establishments only and do not include those of nonincorporated firms. These profits do not include those of firms engaged in intercity transportation.

[2] Relates only to food sold to civilian consumers and not to that sold to the Armed Forces or exported. The cost of labor in restaurants and other eating places is not included but the series includes the estimated cost of additional retail-store labor that would be required to handle in retail stores the food sold in eating places. These adjustments are made because the food served in these places is valued at retail-store prices when it is included in the retail cost from which the marketing bill is derived. The cost of labor employed in intercity transportation is not included because payments made for transportation also are compared with the total marketing bill.

[3] Includes other costs and unincorporated profits.

[4] Preliminary.

share of the total received by farmers. In 1956, the aggregate return to farmers for the farm products equivalent to these foods was 39 percent of the retail cost compared with 48 percent in 1947–49 and 40 percent in 1935–39 (based on data in table 33).

LABOR

About 5.2 million persons (equivalent full-time basis) were engaged in marketing farm food products in 1956 (table 35). This includes wage earners and salaried employees of firms that assemble, transport, process, and distribute farm food products and proprietors of unincorporated businesses and family workers who do not receive money wages or salaries. It includes workers in restaurants and other eating places.[26]

About three-fifths of the approximately 5 million food marketing workers were in retailing, about a fourth in processing, and the remaining 15 percent in local assembly, wholesaling, and transportation. Slightly more than two-fifths of those in retailing were in restaurants and other eating places. This proportion has increased slightly during the last 25 years. Proportions in other lines of food marketing have not changed significantly, although number of workers in each has increased.

The trend in the number of persons engaged in marketing farm-produced food products has been upward since 1929. Significant decreases occurred only in the early 1930's and during World War II. The number of equivalent full-time workers was 53 percent larger in 1956 than in 1929.

TABLE 35.—*Estimated number of workers and cost of labor in marketing farm-produced food products, 1929–56* [1]

Year	Number of workers		Labor cost	
	Total	1947–49 = 100 (2)	Total	1947–49 = 100 (2)
	Million	*Percent*	*Billion dollars*	*Percent*
1929	3.4	73	4.6	39
1930	3.4	72	4.5	38
1931	3.3	69	4.1	35
1932	3.1	66	3.5	30
1933	3.2	67	3.2	28
1934	3.4	73	3.6	31
1935	3.5	74	3.8	32
1936	3.6	76	4.0	34
1937	3.7	80	4.5	38
1938	3.7	79	4.5	38
1939	3.8	82	4.7	40
1940	3.9	84	4.9	42
1941	4.1	87	5.3	46
1942	4.2	88	5.9	50
1943	4.0	86	6.3	54
1944	4.1	88	6.9	59
1945	4.2	90	7.6	65
1946	4.5	95	9.1	78
1947	4.6	99	10.8	92
1948	4.7	100	11.8	101
1949	4.7	101	12.4	107
1947–49	4.7	100	11.7	100
1950	4.7	100	13.0	111
1951	4.8	103	14.2	122
1952	4.9	105	15.1	129
1953	5.0	107	16.0	137
1954	5.0	107	16.5	142
1955	5.1	108	17.2	147
1956 [3]	5.2	111	18.3	157

[1] Includes number (on a full-time equivalent basis) and compensation of all persons engaged in assembling, processing, wholesaling, retailing, and transporting farm food products. Proprietors and family workers who receive no stipulated compensation are included in the estimated number of workers. The cost of labor includes wages and salaries received by employees, an allowance for the labor of proprietors and family workers, and supplements to wages and salaries paid by employers.

[2] Computed from unrounded figures.

[3] Preliminary.

Variations in the total labor cost reflect changes (1) in volume of farm food products marketed, (2) in the quantity and quality of services supplied by the marketing system, and (3) in wage rates and output per man-hour of labor. Total labor cost during the early 1930's declined more than either the number of employees or the volume of food products marketed; since the 1930's it has increased more rapidly than either. From 1946 to 1955, cost of labor increased nearly 90 percent. Labor cost was about the same proportion of the national income in both years. The preliminary estimate for 1956 is double the cost in 1946.[27]

PROFITS

Total profits (before taxes) of corporations processing and distributing farm food products advanced rapidly during the early years of World War II (table 34). From 1940 to 1943 they more than doubled, rising from 0.4 to 1.0 billion dollars. Profits were stable during the remainder of the war years but shot up drastically to 1.7 billion dollars with the removal of price ceilings in 1946. Increases in prices at all levels—retail, wholesale, and manufacturing—and the accompanying increase in the value of inventories were major causes for this high level of profits. Because of the lag between the time that goods are bought and sold, marketing firms tend to make increased profits when prices are rising and to take reduced profits when prices are falling. Total profits before taxes during the years 1953–55 were slightly above those earned in the 1947–49 period. Profits after taxes have not risen as rapidly after 1939 as profits before taxes because of increases in the corporate income tax and the wartime excess profits tax. The taxes paid by food marketing corporations took about 20 percent of total profits in 1939; in recent years taxes as a proportion of total profits were slightly more than 50 percent.

Because of inadequate data, profits of noncorporate food marketing firms were not estimated by AMS. For many noncorporate businesses net receipts of the firm are largely a

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[26] Most retail and wholesale establishments that sell farm food products also handle nonfarm foods and nonfood items, many firms that transport farm foods also haul other products, and some food-processing plants manufacture nonfood products. The total number of workers in these establishments, therefore, cannot be included in these estimates. In general, the proportion included is determined by the proportion of total sales or output represented by farm food products. Estimates of the number of workers and payments received by them in 1956 and earlier years are based on data published by the Dept. of Commerce and the Dept. of Labor. For a description of the way in which these estimates were derived, see "Labor in Marketing Farm Products" (*17*).

[27] Labor cost in table 34 is less than that in table 35 because of adjustments for comparability with the marketing bill, as noted in footnote 2 to table 34.

return for the labor of proprietors and family workers who do not draw stated wages or salaries. The estimates of labor costs in marketing food products include an allowance for the labor of proprietors and family workers (table 35).

Estimated profits of noncorporate food-processing firms have been published by the Department of Commerce for 1929, 1939, 1945, and 1949. In 1949, profits of all noncorporate manufacturers of food and kindred products totaled 215 million dollars, or about 13 percent of total profits of *both* corporate and noncorporate food manufacturers. Profits for noncorporate wholesale and retail trade groups are estimated annually, but profits of food firms are not published separately. In recent years, noncorporate firms accounted for about 70 percent of profits of all wholesalers and retailers. Noncorporate *food* wholesalers and retailers, however, probably account for a somewhat smaller proportion of the profits received by *all food* wholesalers and retailers because of the importance of food chains and other large incorporated firms in food wholesaling and retailing.

MARKETING AGENCIES AND FUNCTIONS

Specialization and urbanization in our economy have made food marketing more complex. Many agencies handle food and perform essential tasks in getting food products from the farmer to the consumer and thus receive a part of the marketing bill. Among these agencies are local buyers, elevators, assemblers, auction markets; truck lines, railroads, air cargo companies; commission houses, brokers, organized exchanges, credit institutions; packing plants, flour mills, bakeries; wholesalers, jobbers, factory sales representatives, independent and chain grocers, meat markets, delicatessens. Thus, there are many agencies and many functions performed.

Integration in the food industry through ownership or by contractual arrangements has increased in recent years so that many agencies are performing more than one of these functions. The number of firms in most food industries has declined with a resulting increase in average size of firms. Integration also has speeded up this growth in size. Many firms have more direct control of supplies from the producer to the retail store than formerly. Quality maintenance and control have grown in importance as mass processing and distribution of foods increased. For a large organization to standardize its products it must develop sources of supply that can furnish products of given grades and in sufficient volume to make trading by large buyers feasible.

Retailing and processing account for the major part of the marketing bill, with wholesaling, transportation, and assembly making up most of the remainder. According to data from various trade sources, gross margins of grocery stores averaged about 18 or 19 percent of sales in 1955, or about a third of the farm-retail spread for the market basket (which was 59 percent of retail cost in 1955). Gross margins in food processing probably accounted for another third, although no data are available for a precise estimate.

RETAILING

In 1954 there were 385,000 food stores in the United States, with total sales of almost 40 billion dollars (table 36). Grocery stores accounted for 87 percent of sales, but only 73 percent of the total number. Specialty food stores, such as meat and seafood markets, fruit and vegetable markets, and delicatessens, accounted for a smaller proportion of food-store sales than ever before.

The retail food trade has changed greatly in the last several decades; many of these changes have increased output per worker and moderated the effects of higher cost rates. Fewer stores provide credit and delivery services and

TABLE 36.—*Retail food stores: Number, total sales, and average sales per store, 1948 and 1954*

Type of store	Number of stores				Total sales				Sales per store	
	Actual		Percentage of total		Actual		Percentage of total			
	1948	1954	1948	1954	1948	1954	1948	1954	1948	1954
	No.	*No.*	*Pct.*	*Pct.*	*Mil. dol.*	*Mil. dol.*	*Pct.*	*Pct.*	*Thous. dol.*	*Thous. dol.*
Grocery	350,754	279,440	76.1	72.7	24,730	34,421	84.7	86.6	70.5	123.2
Specialty [1]	110,159	105,176	23.9	27.3	4,478	5,341	15.3	13.4	40.7	50.8
All	460,913	384,616	100.0	100.0	29,208	39,762	100.0	100.0	63.4	103.4

[1] Includes meat markets, fish markets, fruit stores and vegetable markets, confectionary stores, bakery products stores, delicatessen stores, and food stores not elsewhere classified.

Compiled from 1954 Census of Business: Bulletin R-1-1, Retail Trade, U. S. Summary.

TABLE 37.—*Margins, expenses, and profits, 49 food chains, 1955*

Item	Percentage of sales	Percentage of gross margin
	Percent	*Percent*
Gross margin	18.12	100.0
Expenses:		
Payroll (including supplementary benefits)	9.64	53.2
Real estate costs	1.45	8.0
Fixture and equipment costs	1.36	7.5
Heat, light, water, refrigeration, and power	.60	3.3
Supplies	1.08	6.0
Services purchased	.27	1.5
Advertising	.83	4.6
Traveling	.08	.4
Insurance (except on real estate)	.17	.9
Taxes (except real estate and income)	.47	2.6
Miscellaneous expense	.58	3.2
Interest	.24	1.3
Total expense, including interest	16.77	92.5
Net operating gain	1.35	7.5
Other income (net)	1.14	---------
Net gain, before income taxes	2.49	---------
Total taxes on income	1.28	----
Total net profits	1.21	-------

Compiled from "Operating Results of Food Chains in 1955," (*6*, p. 7).

self-service stores are steadily replacing clerk-service stores. Gross margins as a percentage of sales generally are lower than before World War II.

Supermarkets first appeared during the 1930's and the number has increased steadily until these large departmentalized stores are now common. In 1954, stores having annual sales of more than $500,000 accounted for nearly a half of total grocery-store sales, compared with slightly more than a fourth in 1948. Average sales per grocery store increased from $70,000 in 1948 to $123,000 in 1954 (table 36). Higher prices caused some of this increase, but most of it was the result of larger volume. Adjusted for change in price level, the increase in dollar sales per store was more than 60 percent. Total grocery-store sales increased substantially but the number of grocery stores declined about 20 percent between 1948 and 1954.

Food did not account for all of the increase in sales per store. Supermarkets have greatly increased the number of nonfood lines in recent years, partly because of the higher markup on some nonfoods and partly to utilize facilities and personnel more completely.

Many large food stores have a quicker turnover of stock and larger sales per unit of floor space than do smaller stores. This should give them economies of scale in the use of labor and equipment provided there are no offsetting inefficiencies. Although supermarkets appealed to the consumers in the 1930's by reducing costs, often by eliminating services, they have in recent years provided parcel pickups, parking lots, and other services that no doubt add to operating cost.

Gross Margins and Costs.—Gross margins for 49 food chains averaged 18.1 percent of total sales in 1955, according to data summarized by the Graduate School of Business, Harvard University (table 37). Payroll costs were the largest expense item, amounting to more than half of the total gross margin. Net profits after taxes were 1.2 percent of sales.

Gross margins reported elsewhere were similar. "The Super Market Industry Speaks" (published annually by the Super Market Institute) reported a median gross profit on sales of 17.8 percent in 1955. Gross profits reported in "Facts in Grocery Distribution" (published annually by "Progressive Grocer") ranged from 18.2 percent to 19.1 percent, depending on store size.

The average gross margin for a group of 14 food chains in the Harvard study varied from 17.6 percent to 18.9 percent of net sales during 1949–55 (table 38). Gross margins were slight-

TABLE 38.—*Gross margin, expense, and net profit as percentage of net sales, 14 retail food chain companies, 1949–55*

Item	1949	1950	1951	1952	1953	1954	1955
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Gross margin	18.12	18.57	17.55	18.02	18.81	18.93	18.45
Expense:							
Store	10.17	10.27	10.23	10.50	10.94	11.17	12.17
Warehouse	1.21	1.19	1.17	1.15	1.19	1.18	1.15
Transportation	1.09	1.06	1.02	1.03	1.01	1.00	.99
General and overhead	2.70	2.68	2.65	2.57	2.81	2.81	2.12
Total expense	15.17	15.20	15.07	15.25	15.95	16.16	16.43
Net operating profit	2.95	3.37	2.48	2.77	2.86	2.77	2.02

Taken from "Operating Results of Food Chains in 1955," (*6*, p. 3).

TABLE 39.—*Food wholesalers and assemblers: Sales, operating expense and payroll expense, specified kinds of business, 1948 and 1954*

Type of wholesaler and kind of business	1948					1954				
	Establishments	Sales	Percentage of sales		Payrolls as percentage of operating expense	Establishments	Sales	Percentage of sales		Payrolls as percentage of operating expense
			Operating expense (1)	Payroll				Operating expense (1)	Payroll	
	Number	*Million dollars*	*Percent*	*Percent*	*Percent*	*Number*	*Million dollars*	*Percent*	*Percent*	*Percent*
Merchant wholesalers:										
Groceries, general line	4,253	5,772	8.2	5.0	61	3,320	7,354	7.5	4.4	59
Confectionery products	1,696	358	12.1	6.8	56	1,909	527	12.9	6.5	50
Meat and meat products	3,200	1,977	7.5	4.2	56	4,357	2,866	10.3	5.2	50
Dairy and poultry products	4,839	2,689	7.9	4.3	54	4,941	2,815	10.1	4.8	48
Fresh fruits and vegetables	6,127	3,170	9.9	5.0	50	6,520	3,262	13.2	6.4	48
Sales branches of manufacturers [2]	4,575	10,243	7.6	3.4	44	4,488	11,747	9.3	4.1	45
Merchandise agents, brokers:										
Groceries, confectionery and meats [3]	2,568	5,180	2.0	.9	44	2,949	7,621	2.1	.9	45
Dairy and poultry products	151	368	1.5	.7	45	214	516	3.6	1.8	50
Fresh fruits and vegetables	805	1,295	3.5	1.7	48	893	1,591	4.3	1.9	44
Assemblers of farm products:										
Dairy and poultry products	2,522	940	7.1	3.3	47	2,087	1,392	8.0	3.7	47
Fresh fruits and vegetables	2,032	1,087	23.3	11.2	48	1,993	1,288	20.8	9.7	47
Livestock	1,221	2,059	1.3	.5	38	1,090	1,771	2.4	.8	35

[1] Includes payroll and other operating expenses but not the cost of merchandise nor withdrawals by owners of unincorporated businesses.

[2] Cannot be shown by products because of noncomparability.

[3] Includes coffee, tea, and spice agents and brokers.

Compiled from 1954 Census of Business: Wholesale Trade, U. S. Summary, Bulletin W–1–1, table 1C.

ly higher in the later years but net profits were somewhat lower. Profits as a percentage of sales and of stockholders' equity for 8 leading food chains are given for the period 1935–56 in tables 6 and 7, pp. 10-11.

WHOLESALING AND ASSEMBLY

Many types of firms handle food products in assembly and wholesaling operations. The size of the gross margin taken by these firms varies widely among groups, depending on the specific services and operations performed. In 1954 operating expenses ranged from 2.3 percent of sales for agents and brokers of general groceries and 2.4 percent for livestock assemblers to 20.8 percent for assemblers of fresh fruit and vegetables (table 39). Payroll expenses were about half of operating expenses for most groups, with a range from 35 percent of operating expenses for livestock assemblers to 59 percent for merchant wholesalers handling a general line of groceries.

Between 1948 and 1954 operating expenses as a percentage of sales increased for most assemblers and wholesalers of food products. The only exceptions were grocery wholesalers and fresh fruit and vegetable assemblers. In addition to generally higher cost levels, operating expenses as a percentage of sales may have increased because of the lower sales value

TABLE 40.—*Wholesale grocers: Specified costs and profits as percentage of sales, 1948–55* [1]

Item	1948	1949	1950	1951	1952	1953	1954	1955
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Gross profit	8.66	8.16	9.10	8.75	7.80	7.42	8.10	7.33
Net profit	1.78	1.38	2.01	1.64	.98	1.09	1.34	1.42
Operating expense	7.88	7.83	8.16	8.06	7.49	7.34	7.69	6.93
Salaries and wages	5.07	4.93	5.47	5.31	3.76	3.70	3.62	3.37
Salesmen's compensation	1.39	1.18	1.42	1.38	1.35	1.28	1.27	1.03
Sales traveling expense	.37	.34	.36	.39	.35	.37	.37	.35
Advertising expense	.16	.10	.12	.06	.07	.11	.09	.06
Discounts on purchases	1.21	1.31	1.29	1.29	1.30	1.38	1.27	1.27

[1] Data are not entirely comparable because the number of firms reporting varied by years. Ratio to sales are "actual" ratios, i.e., the sales of only the firms having the item entered into the calculation.

"Survey of Wholesale Grocers' Profit and Loss Figures," (*2*, p. 18).

of most farm products in 1954. Changes in functions or services performed by specific groups such as packaging, sorting, and grading also affect operating expenses.

No marked changes occurred between 1948 and 1954 in payroll expenses as a proportion of operating expenses, but the proportion did decline for most groups (table 39). Average hourly earnings in wholesaling increased by as large or larger proportion perhaps than most other cost rates. Labor costs were kept down by increased mechanization, improvements in plant design and operation, and larger scale operations in many warehouses and packing sheds.

Trends in gross profits and expense items for grocery wholesalers, the group in table 39 with the largest total sales, are available for 1948–55 from annual surveys conducted by the United States Wholesale Grocers' Association (table 40). Average gross margin, which includes profits in addition to operating expenses, declined from 8.7 percent of sales in 1948 to 7.3 percent in 1955. Net profits also were generally lower in recent years than in the period 1948–51.

Trends in number of establishments, total sales volume, and average sales per establishment differed among groups and kinds of assemblers and wholesalers (table 39). Local assemblers of farm products operated fewer establishments in 1954 than in 1948, which continued the sharp decline noted between the census years 1939 and 1948, particularly for dairy product assemblers. Improved roads and more farm trucks decreased the need for many country pickup points. In some instances, smaller establishments probably were unable to compete with larger establishments that could obtain economies of scale. More employment opportunities during the war and postwar periods than during the 1930's hastened the closing of relatively unprofitable businesses and made openings of small business less frequent. Average sales volume of dairy and poultry products and fresh fruit and vegetable assemblers increased markedly between 1948 and 1954. But the average sales volume of livestock assemblers decreased slightly.

Most types of wholesalers handling farm products further along the marketing channel operated more establishments in 1954 than in 1948, and the average sales volume per establishment generally increased. In contrast to the general trend, the number of establishments operated by merchant wholesalers of general line groceries declined about 20 percent between 1948 and 1954. Their total sales increased by more than a fourth so that average sales per establishment went up by almost two thirds. These wholesalers probably handled about the same proportion of total grocery sales in 1954 as they did in 1948.

PROCESSING[28]

More foods are processed each year and more kinds and quantities of foods appear on the grocery shelves, as factory preparation of food is substituted for kitchen preparation of food. Much of this additional processing adds to the total marketing bill. However, when foods are processed, savings may result in other marketing operations that offset all or a part of the increased processing costs.

Many food processing industries are characterized by large plants. In general the average plant size has increased in recent years; economies of scale has been the principal stimulus.

Since the end of World War II, food processors have made large investments in plant and equipment. Investments were especially large during 1947 to catch up after World War II, but they have remained at the high level of around ¾ billion dollars (in 1955 dollars) in recent years. The effect of these increased investments on output per worker is indicated by the trend in number of workers in food processing which reached a peak in 1953, with evidence of a slight decline thereafter despite a continued increase in total food processed. Total number of production workers has declined almost steadily since 1947, although there has been a steady increase in other than production workers.

TABLE 41.—*Food processing: Value added in specified industry groups, 1947 and 1954*

Industry group	1947	1954	Ratio 1954/1947
	Million dollars	*Million dollars*	
Meat packing, wholesale	977	1,396	1.43
Prepared meats	236	378	1.60
Poultry dressing, wholesale	68	206	3.03
Creamery butter	138	137	.99
Natural cheese	65	89	1.37
Concentrated milk	157	171	1.09
Ice cream and ices	280	328	1.17
Special dairy products	48	57	1.19
Grain mill products [1]	609	633	1.04
Bakery products	1,363	1,977	1.45
Macaroni and spaghetti	42	51	1.21
Fruit and vegetable processing	807	1,175	1.46
Shortening and cooking oil	162	176	1.09
Margarine	44	42	.95
Beet sugar	118	96	.81
Bottled soft drinks	421	635	1.51
Confectionery products	414	422	1.02
Corn products (wet milling)	127	177	1.39
Total	6,076	8,146	1.34

[1] Excluding animal feeds industry.

Compiled from 1954 Census of Manufactures, preliminary reports.

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[28] Costs and profits in food processing industries and factors affecting trends in output and productivity were given in the discussion of product groups in the preceding chapter (p. 13).

"Value added" by the principal industries processing farm food products totaled 8.1 billion dollars in 1954, an increase of a third over 1947 (table 41). This increase was somewhat less than the increase in the food marketing bill. These data on value added, however, are for food for all uses while the marketing bill applies only to domestic civilian consumption; a larger proportion of our food supply went for military use and exports in 1947 than in 1954. In addition, food is processed in establishments not listed in table 41, such as poultry processing by retailers, single-shop retail bakeries, fluid milk plants, and others.

Value added by manufacture measures the approximate value created in the process of manufacture and thus provides the most satisfactory census measure of the relative importance of given industries. It is calculated by the Bureau of the Census "by subtracting the cost of materials, supplies, containers, and fuel consumed, purchased electric energy, and contract work from the value of products shipped."

THE FARMER'S SHARE

The farmer's share statistics often receive more public attention than the other "market-basket" statistics. They sometimes are used for misleading or erroneous comparisons. Therefore, the farmer's share is discussed in some detail in this section with respect to what it measures, variations over time and between products and product groups, and various types of measurements that might be made.

VARIATION BY TYPE OF PRODUCT

The farmer's share as computed from the market-basket series averaged 40 percent in 1956. This means that, on the average, for each dollar spent for farm food products by urban consumers in retail food stores, farmers received 40 cents and marketing agencies 60 cents. In both cases the shares measure gross returns and include all costs as well as net profits (if any) of farmers and other agencies engaged in the production of the needed raw materials and the processing and distribution of food products bought in retail food stores.

The farmer's share, however, varied considerably, depending on the particular food. It averaged about 69 percent for eggs and 71 percent for butter but only 14 percent for canned peas and other canned vegetables. The farm value of the wheat in a 5-pound package of flour averaged 38 percent but the wheat in a 1-pound loaf of white bread amounted to only 15 percent of the retail price. Like most statistical averages, these percentages "cover up" considerable variation by the season of the year, city or area, and source of supply, and even among stores in the same locality.

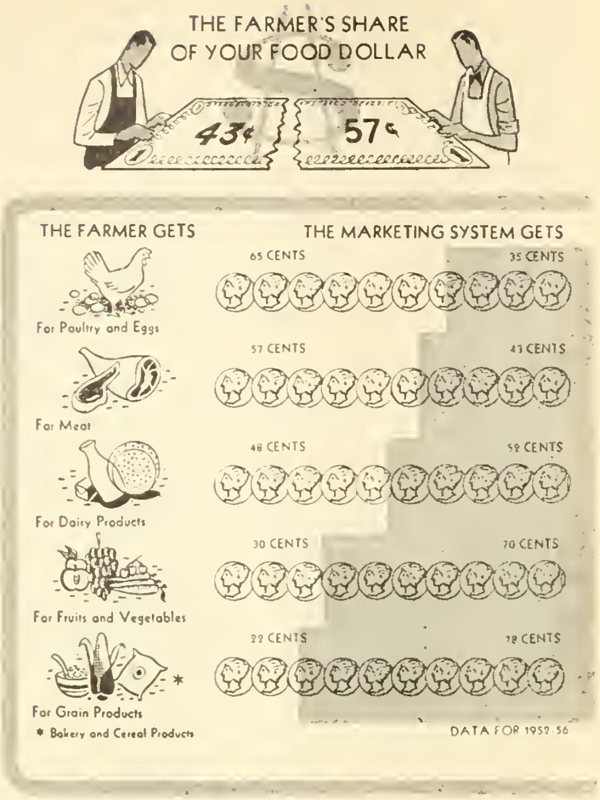

FIGURE 32

Any interpretation of variations in the farmer's share of the food dollar among products and product groups or of changes over time should be considered in relation to variations and trends in marketing services. For this study, the farmer's share for individual products and product groups was averaged for the 5-year period 1952–56 (table 42 and fig. 32). For a period of this length, variations in farmer's shares related to seasonal or cyclical variations in supply are minimized so that these averages should reflect mainly the effect of variations among products in services performed by farmers and marketing agencies. In any one month or year the relationships between products may be quite different. For example, in the 5-year period the farmer's share for pork ranged from 38 percent in December 1955 to 67 percent in April 1954 while the variation for Choice grade beef was from 54 percent in February 1956 to 74 percent in April 1952.

Several observations can be made about the relationships between the size of the farmer's share and the type of product. In general, the more highly processed the product is, the smaller the farmer's share. The direct influence of the degree of processing can be seen by comparing flour with bread and crackers. Wheat is the principal ingredient of each of

TABLE 42.—*Variations in farmer's shares by type of food product, average 1952–56*

Type of product	Farmer's share
	Percent
Unprocessed foods, animal products: [1]	
Eggs	69
Beef, Choice grade	65
Chickens, frying	60
Lamb	59
Pork (retail cuts)	58
Unprocessed foods, crops:	
Beans, dried	46
Apples	43
Potatoes	39
Lettuce	38
Onions	36
Tomatoes	36
Prunes	35
Oranges	30
Lemons	29
Grapefruit	18
Processed foods, animal products: [1]	
Butter	71
Cheese, American process	52
Milk, fluid	47
Milk, evaporated	46
Lard [2]	44
Ice cream	19
Processed foods, crops:	
Peanut butter	[3] 40
Vegetable shortening	37
Margarine	31
Salad dressing	23
Flour, white	39
Corn meal	27
Rolled oats	26
Bread, white	19
Crackers, soda	[3] 15
Corn flakes	15
Corn sirup	[3] 15
Orange juice concentrate, frozen	31
Strawberries, frozen	26
Beans, green, frozen	[3] 20
Peaches, canned	18
Tomatoes, canned	17
Peas, frozen	16
Sugar, beet	46

[1] Some processing is involved for almost all animal products. However, the kinds and grades of meat listed here are sold mostly in fresh form in contrast to canned and processed products derived mostly from other kinds of grades of meat.

[2] Rough estimates, based on value of live hog imputed to lard in calculating byproducts value for pork.

[3] Four-year average, 1953–56.

these processed products but, in the case of bread and crackers, an additional step in processing is added. Wheat sold by a farmer may be used for any of these products (within limitations of grade or variety) so that the relatively lower farmer's share for crackers and bread does not necessarily mean a lower price to the farmer for wheat used in these products. It is likely that in some instances additional processing, while resulting in a lower farmer's share of the retail price, may mean expanded consumer markets and a larger return to farmers than would otherwise be possible.

Foods derived from animals and animal products tend to have a higher farmer's share than those derived directly from crops because farm inputs are relatively greater for animal products than for crops. The average farmer's share in 1952–56 was considerably higher for the three animal product groups—meat products, dairy products, and poultry and eggs—than for the three food product groups derived from crops—bakery and cereal products, fruits and vegetables, and fats and oils (fig. 32).[29]

Within each of the product groups, however, the degree of processing varies. Thus, the foods processed from animal products tend to have a lower farmer's share than foods from animals or animal products with relatively little processing. A similar proposition is generally true of processed and unprocessed foods derived from crops (table 42). The average farmer's share for each of these groups was as follows:[30]

	Percent
Animal products, unprocessed	62
Animal products, processed	47
Crops, unprocessed	35
Crops, processed	26

Other variations in product characteristics may affect the ranking within each of the four classifications with respect to the farmer's share. The relative amount of processing affects the size of the farmer's share as noted for flour compared with bread or crackers. Classification of foods as processed or unprocessed is a matter of degree. All of the "unprocessed" animal products except eggs involve some change in form which may in part explain why eggs rank the highest. Choice grade beef which is processed less than pork ranks next in that group. Dried prunes and navy beans, although classed as processed products, are sold by farmers in dried form and seem to fit better in this analysis with the unprocessed crops.

Other factors influencing the rank of foods within the four classifications are the average distance shipped in getting products from the farm to the consumer and the perishability of the product, which affects the relative cost of transportation, storage, and "protective" services. These factors may explain in part why the average farmer's share for dried beans is higher than for dried prunes, apples higher than citrus fruits, and potatoes above most of the other fresh vegetables. The farmer's share for oranges is much higher than for grapefruit even though production and marketing services performed are much the same for both products. The difference between the two products may reflect a relatively depressed market for grapefruit for which a period of several years is required to adjust supply to demand. Supply adjustments for tree crops often take place over a long period of time because of the large fixed investment. Relative costs of packaging and advertising also may affect some of the rankings of the processed crops such as grain products and canned fruits and vegetables.

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[29] Fats and oils include one animal product, lard. Also, several animal products—lard, eggs, and milk—are used in bakery products but grain products usually are the principal ingredients.

[30] An analysis of variance indicated that the differences between these group averages were significant at the 1 percent level.

VARIATION OVER TIME

The trend in the farmer's share of the retail-store cost of the market basket is closely correlated with the trend in the parity ratio which measures the relation of farm-product prices to prices of things farmers buy (fig. 33).[31] This is not surprising because the trend in the farm value of the market basket is closely correlated with the trend in the prices-received index. The other part of the retail-store cost, the farm-retail spread, is influenced by many of the same costs that influence the index of prices paid by farmers, especially the prices of items supplied by the nonagricultural segment of the economy. The trend in the farmer's share also is closely related to trends in net farm income for much the same reasons. But the farmer's share should not be substituted for more appropriate measures of farm income. The farmer's share does not give any direct measurement of the income position of agriculture nor does it provide any basis *per se* for judging the "fairness" of shares of the consumer's food dollar going to agriculture or other groups.

The farmer's share was smaller for practically every food product during the 5-year period 1952–56 than during the preceding 5-year period 1947–51, because the average level of farm prices relative to other prices in the economy was markedly lower. Compared with the prewar period 1935–39, however, the farmer's share for the market basket averaged higher in 1952–56. But there is less uniformity in changes between these two periods when farmer's share for individual foods and product groups are compared—especially in product groups for which changes in the composition of the group such as the increased importance of processed foods in the fruit and vegetable groups may be a significant factor.

Over time, relationships between products as to the division of the retail price between farmers and marketing agencies may shift because of changes in amounts of services provided or changes in efficiency. For example, if over the two decades relatively greater increases in efficiency were achieved in marketing poultry than in marketing beef, the share of the retail price of poultry going to marketing agencies would tend to decrease relative to that for beef. But if increases in efficiency in farm produc-

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[31] The parity ratio is the ratio of the AMS index of price received by farmers to the AMS parity index (prices paid by farmers, interest, taxes, and wage rates).

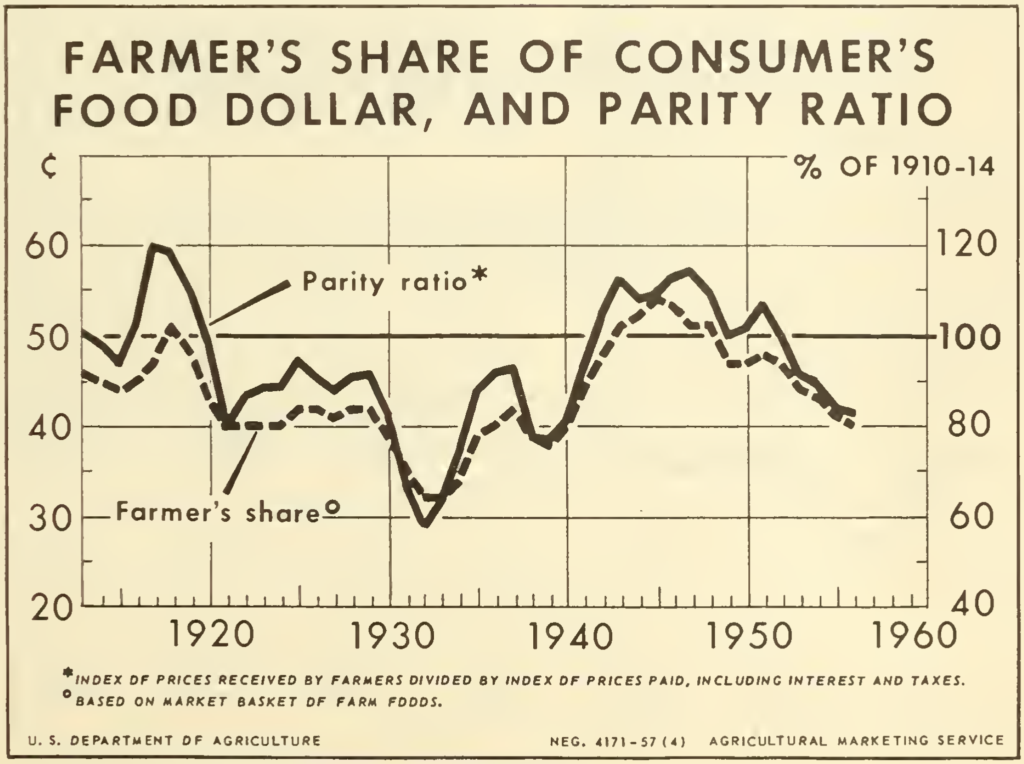

Figure 33

tion of poultry were greater than for beef, the farmer's share of the retail price of poultry would tend to decrease relative to beef.[32] For those foods for which the cost of added services has increased relative to other foods the farmer's share would tend to decrease in relation to other foods. Examples of such added services may be the sale of foods in smaller size packages, more cleaning, trimming, and other preparation of food (that is, substitution of factory labor for housewife's kitchen labor) or greater transportation services because of greater distances to market. Marketing services may be reduced for some foods, such as a shift from home delivery to store buying of milk. Thus, while the general price relationship between the agricultural and nonagricultural sections of the economy is the primary determinant of long-term trends in the overall farmer's share, a combination of factors may affect long-run shifts in relationships between products and product groups. Detailed studies would be necessary in each instance to isolate the effect of the significant factors. For shorter time periods, farmer's shares for various foods may change rapidly and by large amounts as prices change at various levels because of fluctuations in supplies.

DIFFERENT TYPES OF MEASUREMENTS

Other measurements of the farmer's share may be made, in addition to the farmer's share of the retail-store cost of a market basket of farm food products. These other measurements may be more appropriate for some purposes.

In figure 34 the farmer's share from the market-basket series is compared with two other measurements. One of the two other farmer's-share series is derived by comparing total consumer expenditures for farm food products with the total farm receipts from sale of these products by United States farmers (adjusted for value of inedible byproducts). In the other series the same total consumer expenditures are compared with the "value added" by agriculture, that is, the gross returns received by agriculture for its labor and capital, excluding the cost of purchased production materials and services (*14*).

Consumer expenditures for farm food products given in series B in figure 34 were derived by valuing food products at their prices at the place in the marketing system where they were bought by consumers. This series, therefore, provides a more appropriate basis than series A for measuring what part of total consumer expenditures for food does go back to the farmer.

The farmer's share of total consumer expenditures for farm food products has declined relative to the farmer's share for the market basket of food products. One of the primary

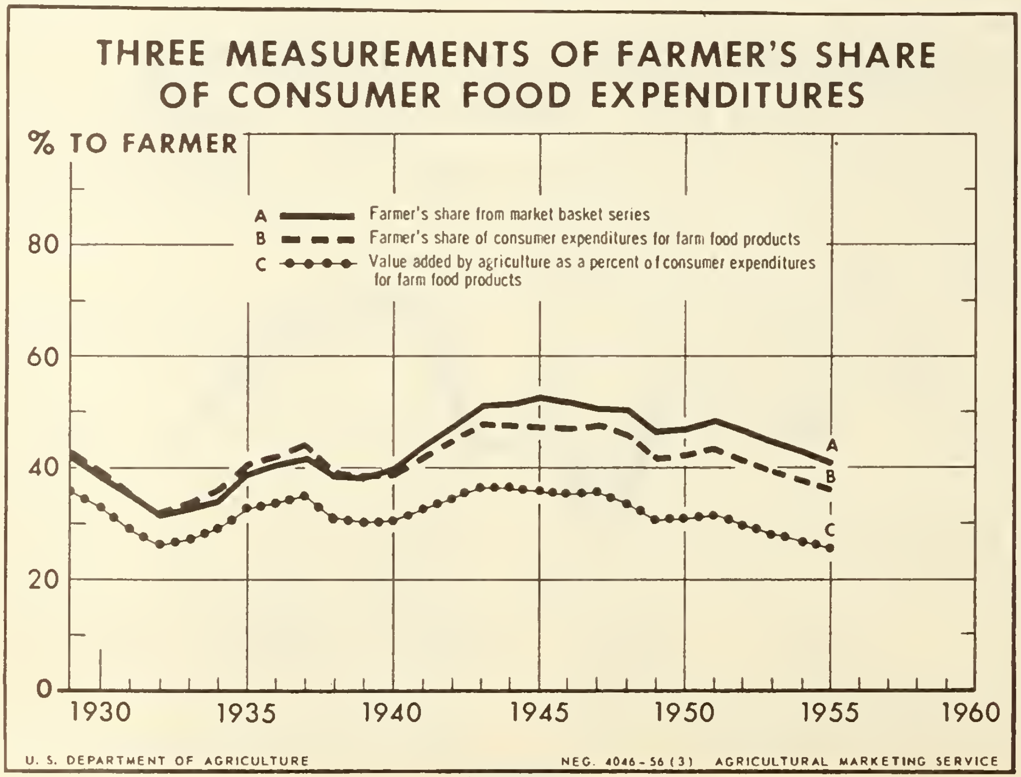

Figure 34

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[32] This assumes that over time shifts in resource use between different types of products take place within agriculture and marketing so that net returns between various enterprises tend to be equalized.

reasons for this difference in trend between the two series is the growing importance of consumer purchases of food products through marketing channels that provide more services to consumers, therefore, adding to the cost per unit of food bought.

In the last several decades, consumers have been buying an increasing proportion of their food through restaurants and other eating places. This trend was especially evident during World War II when many housewives took jobs away from home. It was also during this period that the sharpest differences in the trends of the two series (A and B) took place. During low income periods, consumers are more likely to economize on amounts of marketing services bought with their foods and to make more purchases direct from farmers, hucksters, wholesalers, and other groups that will keep down their cash outlays for food.

Direct farm-to-consumer sales are declining in importance. Between 1935 and 1955, for example, the proportion of all milk marketed by farmers that was sold direct to consumers declined from 9 percent to 3 percent. Consumer purchases of food through other channels of distribution below the retail-store level probably are becoming less important although no data are available for exact measurements.

The growing importance of the urban population increases distribution and other services required; this change is not reflected in the market-basket series. In general, urban families tend to buy more processed foods and in smaller units than rural families. The increased urbanization of our economy has increased the marketing services performed per unit of product marketed and thus decreased the farmer's share of total food expenditures (as measured by series B).

Shifts in the kinds of food bought and the changes in services associated with these shifts also are not reflected in the market basket. Some of the effects on the farmer's share of consumers buying more processed and ready-prepared foods, however, have been offset by the increasing importance of animal products which, in general, have a higher farmer's share than some of the other products (pp. 51-52).

The farmer's share of the consumer's food dollar as measured by series C—value added by agriculture as a proportion of total consumer expenditures for farm food products—has declined since 1929 relative to measurements given by series A and B (fig. 34). All of the factors affecting the differences in marketing services between series A and B also would hold true in comparisons between A and C. The principal difference between series B and C is that the average farmer's share given in series C is measured not in terms of farmers' cash receipts from sale of food products but in terms of their cash receipts minus cash farm expenditures for such items as motor fuels, fertilizer, and other purchased supplies from nonfarm sources. These purchased production supplies have become increasingly important in the last several decades. Therefore, the farmer's share of the consumer's food dollar as measured by value added has declined relative to the farmer's share as measured by any of the more usual comparisons of farm and retail prices and income and consumers' food expenditures.

Each of the measurements in the three series of the farmer's share and the share received by marketing agencies relates to gross returns and not net returns. Value added provides the best measurement, conceptually, of gross returns received by each industry or group concerned with the production, processing, and distribution of food. It is a "net" measurement in the sense that value added by any firm, industry, or group excludes the cost of materials and supplies furnished by other firms, industries, or groups. It is not, however, a measurement of productivity or efficiency by itself.

The farmer's share of the consumer's food dollar perhaps could be estimated by other measures than those shown in fig. 34. The principal purpose was to illustrate the different types of measurement that can be made and to show that variations in the trends of these series, as well as the level, are related to the type of measurement being made in each instance. Each of the three series has particular uses and applications in addition to that of estimating the farmer's share.

Part II

SOURCES OF DATA AND METHODS OF CALCULATION

Several series of price spreads for food products have been computed and published by the Department of Agriculture since an initial report on price spreads for 10 foods was released in 1935. Primary emphasis in this discussion is on the description and explanation of the current series. The basic methods for computing price spreads for individual foods are substantially the same as those used previously.

The general sources of data for the computation of price spreads for food products and some of their limitations are pointed out in this chapter. The composition of the current market basket and its computation are described in some detail. The adjustments necessary to obtain continuous time series that are linked with previous series also are discussed. The computation and limitations of the price spread series for product groups and individual commodities also are described in some detail. Special emphasis is placed on problems that apply only to certain products and on methods of computation not typical of other products. More detailed information about the methods used by the Agricultural Marketing Service in computing price spreads is available upon request.

GENERAL DESCRIPTION OF PRICE-SPREAD SERIES

As noted in the Introduction, the farm-retail spread for a food product is obtained by subtracting from its retail price the average payment received by farmers for a quantity of farm product equivalent to the retail unit. This amount the farmer receives is called the "farm value." The farm value is computed by multiplying this farm product equivalent by the average price received by farmers. For commodities from which byproducts are obtained in processing, the imputed farm value of these byproducts is subtracted from the gross farm value to obtain a net farm value. The "farmer's share of the consumer's dollar" is obtained by dividing the net farm value by the retail price. The essential steps in the computation of price spreads are the estimation of retail prices and farm values for comparable quantities and qualities of products. The accuracy and the reliability of the farm-retail spread and the farmer's share are dependent on the accuracy and the applicability of the price series used in these computations.

SOURCES OF DATA

The basic sources of price data used in these price-spread series are the retail prices reported by the Bureau of Labor Statistics and prices received by farmers reported by Agricultural Marketing Service.

Retail Prices

Most of the retail prices used for price-spread statistics are the United States average prices for food which BLS estimates each month in connection with its Consumer Price Index. These United States averages are based on prices collected by local part-time agents during the first 3 days of the week which includes the 15th of the month. These agents collect prices in a sample of retail food stores in each of 46 cities. These 46 cities were selected to be representative of all towns and cities of 2,500 population and up.

Product Specifications.—BLS provides the local agents with specifications defining foods which they are to price. A specification is a detailed description of the physical characteristics and form of the food product which determine the quality and, therefore, the price or price range. These specifications may relate to the quantity in which the price is to be quoted (pound, dozen, etc.), grade, size, variety, and type of process. For example, the specification for (1) canned peas is grade A or Fancy, No. 303 can; (2) eggs, large grade A; and (3) oranges, California, Florida, and Texas, all varieties, U.S. No. 1 (good quality), sizes 176 to 220 if packed in standard box and 88 to 110 if packed in a half-box carton. For some items agents may be instructed to price another grade or size and so indicate on the schedule if the specification asked for is not available.

Specifications are defined by BLS with the objective of "obtaining meaningful average prices and minimizing movements in price indexes because of shifts in quality priced from one period to the next." BLS instructs agents to secure a price for the type and brand, within the range of each specification, that is sold in greatest volume in each store. Thus, prices may vary between stores, cities, or seasons depending on what is the volume seller. For example, few fresh oranges from Florida or Texas are marketed during the summer months so that average prices in most cities in this period generally would represent oranges from California. During the winter months fresh oranges from both California and Florida are marketed. But because of supply and demand relationships, such as nearness to production area, consumer preferences and other factors, Florida oranges may predominate in some cities and California oranges in others.

United States Average Prices.—Average prices for each food in each city are computed separately for two groups of stores— (1) Chain and large independents (supermarkets) and (2) the smaller independents. These two average prices in each city are weighted together on the basis of the estimated percentage of total food sales made by each group in the city. "Cost-population" weights are then applied to each city price to obtain the United States average price. These weights represent both the population weight assigned to each city which represents the population of all cities of like characteristics and the expenditure assigned to the priced item which represents average family expenditures for groups of items having similar price movements. Thus, the price of milk for a city in which the consumption per person of fluid milk products is high would be weighted relatively more than the price of milk for a city in which the consumption per person is low even if the population weights for the two cities were equal.

As far as possible, BLS collects prices in all 46 cities for each food product but local variations in size and quality limit the number of cities for which strictly comparable prices are available. Accordingly, for a few of the products, United States average prices are for fewer than 46 cities. Also, minor variations occur from month to month in the number of cities included in the United States price for some items, depending on seasonal or other factors affecting availability of items meeting specifications.[1]

Adjustments in Retail Prices

Most of the retail price series which are published in the price-spread tables for individual food products (pp. 103-37) are based on United States average retail prices published by BLS. In many instances, however, they are *not* the actual prices published by BLS, particularly for earlier years. To obtain retail prices as comparable as possible over time, many of the BLS prices in earlier years were adjusted. The general nature of these adjustments and reasons for them are described in the following paragraphs. Additional details are given in descriptions of methodology for individual food products.

BLS revises its pricing specifications for food products from time to time to reflect changes in food marketing and consumption patterns such as the predominant size of package sold in retail stores, and grade, quality, or kind of product. For example, the pricing unit for most canned vegetables is now the No. 303 can rather than the No. 2 can of a few years earlier. The typical size package for frozen fruits and vegetables has changed from 12 ounces to 10 ounces; the size of package priced by BLS has changed accordingly. Ready-to-cook fryers instead of New York dressed are now priced; Fancy Grade peas instead of Standard Grade; American process cheese instead of American cheddar cheese No. 1. BLS also changes the composition of its store sample in individual cities periodically to reflect changes in the importance of different kinds of stores. The sample of cities also has changed. When BLS changes its specifications for food items or its sample, the new prices are substituted in its index computations in such a way that the month-to-month price change is measured for the new specification or sample, and the price difference between the old size or grade and the new size or grade is not reflected as a price change.[2]

In computing the retail cost of the market basket and product groups (described in a later section of this Chapter) AMS uses essentially the same procedure as BLS for "linking" prices when product specifications are changed. But retail price series are adjusted to the kind of product and unit or package size priced currently by BLS. Without these adjustments, price-spread series for many food products would be available only for short time periods.

Prices are adjusted as follows. In the first month that the price for a revised specification is published, a factor is computed based on the price change obtained from BLS. For example, in October 1954, BLS began publishing average prices for canned tomatoes in a No. 303 can instead of a No. 2 can. Usually BLS collects prices for both the revised and old specification in the month before prices for a revised specification are published. Estimated prices for a No. 303 can for all months before October 1954 were derived by multiplying each No. 2 can price by 0.839, the ratio of the September prices of No. 303 and No. 2 can sizes.[3]

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[1] These variations are noted in the monthly BLS food price reports. U. S. average prices of food are reported by BLS in the "Consumer Price Index" (monthly), average prices in the United States and in 20 large cities in "Retail Food Prices by Cities" (monthly), and annual averages in "Retail Food Prices by Cities—Annual Averages." Food prices also are reported in the "Monthly Labor Review" (monthly) and "Retail Prices of Food," a bulletin issued annually or biannually. Copies of the food pricing specifications are available from BLS on request.

[2] A further description of this procedure and other computational methods are given in BLS Bulletin No. 1140, "The Consumer Price Index: A Layman's Guide," U. S. Government Printing Office, Washington 25, D. C. (20 cents). A more technical description of the index appears in BLS Bulletin 1168, "Techniques of Preparing Major BLS Statistical Series." Reprints of Chapter 9, pertaining to the consumer price index, are available on request from BLS.

Similar procedures were used for adjusting prices of other foods when the size of the retail unit priced by BLS changed. Food items with these price adjustments are indicated in the methodology discussion for product groups. For some products the change in the product priced—for example, from unsliced to sliced bread—was so gradual that no adjustment could be made in the price series. In other cases where an essentially new product is priced—for example, American process cheese instead of cheddar cheese and frying chickens (broilers) instead of roasting chickens—price-spread series are computed and published only for the new product.

New Consumer Price Index, January 1953.—Beginning in January 1953, BLS began the computation of a new index (and retail food prices) based on a sample of 46 towns and cities of 2,500 population and up, intended to be representative of all urban communities. Previously, average prices had been computed from prices collected in 56 large cities. Retail prices for 1953 and later years, therefore, are not strictly comparable with prices for earlier years because the scope of the index was expanded to include all urban areas. However, many of the large cities in the 56-city sample are also in the new sample of 46 towns and cities.

BLS published prices for December 1952 computed from both indexes. Also, BLS collected prices in the 56 cities during several months in 1953. Comparisons of average prices for the new group of cities with those for the 56 cities indicated that for many items price differences were negligible and no adjustment was considered necessary. The items for which adjustments were made and the ratio applied to prices before 1953 are as follows:

Item	*Ratio*
Corn flakes	0.97
Corn meal	1.19
Butter	.994
Cheese	.987
Milk, fluid, delivered to homes	.979
Apples	.96
Sweetpotatoes	1.03
Lard	1.05
Sugar	1.015
Eggs	.98

A few of these differences were caused by changes in specifications. Most of them may be related to the shifts in weights by geographical regions. The inclusion of smaller towns and cities in the new sample raised the weight given the Midwest which generally has lower prices on dairy products and eggs.

Revision in Store Weights.—Beginning with February 1956, BLS revised weighting factors used in each city in combining chainstore average prices with independent store average prices. Factors previously used were derived from sales volume data of the 1948 Census of Business. Also, large independent supermarkets were transferred to the chainstore category because they generally operate similarly to chains and are competitive with them. BLS published prices for January 1956 with revised weights and former weights. The market-basket retail cost, computed with recalculated January 1956 food prices, averaged about 0.5 percent lower than with the original prices for January 1956 (before adoption by BLS of revised weights).[4]

The lower average level of prices obtained with the revised store weights is caused by the larger weight given chain stores and independent supermarkets. Information from trade sources indicated that these outlets should have greater weight. To minimize the effect of this shift in weights on January–February 1956 comparisons of retail prices and farm-retail spreads, the price differences for some products were spread over a period of several years. For example, the average price of American process cheese in January 1956 was 0.7 cent lower when computed with the revised weights. The prices published by BLS from January 1953 to January 1956 were lowered from 0.1 to 0.7 cent. The effect of this adjustment was to lower the average price in 1955 by 0.6 cent, in 1954 by 0.4 cent, and in 1953 by 0.2 cent.

In general, adjustments were made in the prices of those products whose average price was changed by 1 percent or more by the BLS revision in weight. Prices were adjusted over a 1- to 3-year period, depending on the size of the price change, the relative stability of the farm-retail spread, and the relative importance of the product. These products were: Flour, bread, round steak, chuck roast, rib roast, pork chops, bacon, ham, leg of lamb, frying chickens, American cheese, oranges, canned orange juice, pickles, and lard.

Prices Received by Farmers

The estimates of prices received by farmers are based on data that the Agricultural Estimates Division, AMS, collects from several sources, chiefly voluntary price reporters. Price reporters generally are buyers of farm products such as operators of country mills and elevators, managers of creameries and milk-receiving stations, managers of cooperative marketing organizations, local dealers in other types of farm products, local bankers, and other persons with knowledge of farm prices.

Much of the basic price data is collected by means of mailed questionnaires. Typical descriptions of products listed on these questionnaires are as follows: Corn, per bushel of 70 pounds if in ear or 56 pounds if shelled; hogs (live weight), per 100 pounds; and eggs, per dozen. The correspondents are asked to report "a price which would result if total money paid to farmers for a given commodity were divided by the total quantity bought from farmers for this money."

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[3] The ratio of the net product weight in the 2 can sizes is slightly less, 0.821, which means that the price per ounce was slightly higher for canned tomatoes bought in the smaller size can. Products sold in smaller packages often cost more per unit of weight because of the added packaging and handling cost per unit of product.

[4] "Retail Food Prices by Cities, February 1956," pp. 14–16.

Prices reported in the mail questionnaires are tabulated by crop-reporting districts in the 41 field offices of the Agricultural Estimates Division, AMS. Price statisticians in these field offices review these sample data together with data from current market reports, auctions, and other sources. Summaries of the data, together with the statistician's evaluation of them, are submitted to Washington. Official prices, adopted for each State after a similar review in the Washington office, are combined into United States averages, with estimates of production or sales by States used as weights.[5]

These prices received by farmers measure the average price for each product at the point of first sale by farmers, usually a local market. If the proportions of varous grades sold by farmers change, average prices received by farmers may change even though prices for each grade hold steady. For example, during certain months of the year, marketings of beef cattle consist largely of steers and heifers with comparatively few cows. But in other months the percentage of marketings shifts heavily to cows which ordinarily bring much lower prices than steers and heifers. At this time the average price for cattle drops below the prices received in months when marketing consists largely of steers and heifers.

In addition to these average prices, "equivalent per unit returns" are computed by AMS for some products. Adjustments are made in prices at point of actual sale to shift to some point in the marketing process other than that at which the sale was made; for example, from "f.o.b. shipping point" to "packinghouse door." To arrive at these equivalent returns, marketing costs are added to or subtracted from the actual prices. In computing farm values for fresh citrus fruit, equivalent returns per box, fresh, packinghouse door, are used as representing what the farmer receives.

Farm Product Equivalents and Byproduct Values

Estimates of farm product equivalents were based on factors given in the USDA Handbook "Conversion Factors and Weights and Measures for Agricultural Commodities and Their Products" and other available data. For some products, fairly reliable estimates of these equivalents can be made, but for other products, particularly fresh fruits and vegetables, some rather rough estimates were made of the average losses during the marketing process—after sale of the products by farmers.

Farm values of those commodities from which byproducts are obtained in processing are adjusted to remove that portion attributed to the value of the byproducts. The percentage that the wholesale value of the byproducts represents of the total wholesale value of the principal product and the byproducts is calculated as the first step in making this adjustment. The price data for calculating these percentages are obtained principally from the BLS wholesale prices, AMS market news prices, and prices published in various industry publications such as the National Provisioner and the Northwestern Miller. Specific sources for some of these price series are indicated in the discussions of methodology for product groups and individual products.

ADEQUACY AND RELIABILITY OF FARM-RETAIL SPREADS

The retail, wholesale, and local farm market price series used in computing price spreads are subject to reporting and sampling errors. Various inquiries and analyses of the adequacy, accuracy, and representativeness of the BLS and AMS prices generally have concluded that they are reasonably satisfactory measures for the purposes for which they are intended, that is, the construction of index numbers. However, they are often less satisfactory for the calculation of price spreads because there is not a complete matching of price series at the farm and retail levels.

BLS retail food prices for example are collected for the primary purpose of measuring the average change or trend in food prices, rather than the average level of food prices. These prices may satisfactorily measure trends in prices or the price level for a given quality but they may not measure as accurately the actual average price of a product that varies widely in grade and quality. For example, prices of three pork products are more adequate for measuring the trend in pork prices than for estimating the average prices of all pork products sold, which is needed for a price-spread series.

The AMS series of prices received by farmers are aimed at measuring the average price of all kinds and qualities of a farm product rather than of those kinds and qualities used in foods sold primarily in retail stores. There are relatively few cases in which the product sold by the farmer is the product sold to the consumer. Furthermore, a farm product such as milk or wheat may be used for several retail products, with farmers receiving higher prices for some uses than others. For example, farmers generally receive higher prices for milk sold for fluid use than for that used in most manufactured products. Prices received by farmers often reflect changes in quality, proportions of different grades sold, and other factors that may not affect the retail price. The lower grade product often may be diverted from the regular marketing channels. For other products diversion may take place primarily in seasons of peak supply; for example, eggs are bought for drying and freezing during the spring, mainly in the Midwest where average egg prices are lowest.

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[5] Average prices received by farmers are published about the 29th of each month in the report, "Agricultural Prices." A more complete discussion appears in Volume I, "Agricultural Prices and Parity" of Agricultural Handbook No. 118, "Major Statistical Series of the USDA" (1957), and Chapter 15 of Misc. Pub. No. 703 "The Agricultural Estimating and Reporting Services of the USDA, 1949."

Average prices received by farmers for some products, therefore, are not suitable for deriving farm values comparable with the retail prices available. For some products, market price quotations are used to adjust prices received by farmers. One example is the adjustment of price received by farmers for all cattle to an average price for Choice grade cattle by estimating the difference between prices for Choice grade slaughter cattle and all slaughter cattle in leading livestock markets.[6] The accuracy of these adjusted series varies, depending on the data available for making these adjustments.

Ideally, to measure the spread from farmer to consumer for all beef cattle it would be necessary to follow the product as sold at the farm into all the forms in which it arrives at the retail market, such as the varying proportions of different grades and cuts of fresh beef, several canned beef products, and even byproducts such as leather and leather goods. An average of these prices (weighted by the percentage each represents of the product as originally sold by the farmer) could be compared with the price received by the farmer.

Accuracy is more important, on a relative basis, in retail prices than in "farm values". Errors in estimating retail prices cause larger errors in the farm-retail spread than the same percentage errors in the farm value because the retail price per unit, of course, exceeds the farm value. For example, a 10-percent error in the price received by farmers for wheat would cause only about a 2-percent error in the farm-retail spread for bread, but a 10-percent error in the retail price of bread would cause an error of about 12 percent in the spread. This calculation is based on the farm value of the wheat in a loaf of bread being equal to about one-sixth of the retail price. The larger percentage the farm value is of the retail price, the less the difference in the effects on the spread of the same percentage errors at the farm and retail levels.

Retail prices for meat products and fresh produce are generally subject to more variability and thus perhaps larger sampling errors than retail prices of bread and some packaged processed products.

In addition to the inadequacies of the price data available for computing accurate farm-retail spreads, other limitations should be noted. Farm-retail spreads may change because of changes (1) in services provided or (2) in the cost of performing the same services. In year-to-year comparisons, the quantity of marketing services may remain relatively constant and estimates of farm-retail spreads would approximately measure the costs of performing the same services. Over a longer period of time, however, the price spreads may reflect some of the effects of changing marketing services. In addition, adjustments in the retail prices in earlier years and the less adequate data available for estimating farm values for some products in earlier years may make comparisons of farm-retail spreads less accurate over a long period of time.

The farm-retail spread and the farmer's share relate only to the particular unit and grade of the commodity priced at retail. For example, the farm-retail spread for flour measures the difference between the farm value (adjusted for value of millfeed byproducts) of the average quantity of wheat required for 5 pounds of flour and the average retail price paid by urban consumers for a 5-pound package of flour. The farmer's share and spread (on a per pound basis) for a 1-pound package or a 25-pound package very likely are different than for a 5-pound package.

Even though the farm-retail spreads are measured for the same retail unit, changes in marketing services may be introduced. For example, if farmers shift to different marketing channels and perform more or fewer marketing services than formerly, the spread may change because the average price received by farmers represents more or fewer marketing services. Retail stores also may change the quantity of marketing services by shifting from credit and delivery to a self-service, cash-and-carry operation. Shifts in production and population centers also affect transportation and other distribution services required.

Weekend Prices of Food

Retail food stores, especially the larger ones, generally advertise prices for weekend specials that are sometimes lower than those at the beginning of the week. The BLS retail food prices which are used in computing price spreads are collected during the first 3 days of the week of the 15th. Therefore, lower weekend prices are not reflected in the BLS average food prices. Sales that extend for a full week, including the 3 days for which prices are obtained regularly, are included.

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[6] This procedure is described in more detail on p. 77.

In August 1956, the BLS began a special survey of weekend prices to answer two questions: "First, what are the differences, if any, between the prices at the beginning and end of a week that are due to these weekend specials, and, second, if differences do exist, how do they affect the measure of price changes from month to month, as shown by the Bureau's food price index?" A pilot study was made in Washington, D. C., in August 1956; in September prices were collected in 8 cities for the weekend preceding the week of the 15th. Since November the survey has been conducted in alternate months in 10 cities.

Preliminary data indicate that the average difference for all items between the weekend and first-of-week prices is small—generally less than 0.5 percent. For individual items differences ranged as high as 10 percent, however. Fresh meat and fresh fruit and vegetable items were specialed more often than most other items.[7]

Only a few of the foods regularly priced by BLS were specialed in any one city—generally, an average of about 2 percent of all quotations obtained. Special prices tend to be more frequent in large cities than in small cities although there was considerable variation among the 10 cities being surveyed by BLS. Also, they are more frequent among chains than independents.

If weekend prices differ from first of the week prices, the spread would differ by the same amount in *cents per unit* as the retail price, but the spread would be changed more percentagewise. For example, if the spread was half as large as the retail price (that is, a farmer's share of 50 percent), a 1 percent difference in the retail price would result in a 2 percent change in the spread. Changes in retail prices of products with relatively large farmer's shares would have proportionately greater effect on the spread than those with relatively small farmer's shares.

The BLS has collected special retail prices for AMS that are used to supplement retail food prices collected regularly by BLS. For selected poultry and egg items in 9 large cities, previous weekend prices have been collected as well as first-of-week prices. For an 18-month period (July 1955–Dec. 1956) average differences for the 9 cities between first-of-week and weekend prices were as follows (differences for individual months in individual cities were higher):

	Cents
Medium Grade A eggs	0.2
Large Grade A eggs	0.2
Small (4–8 lb.) turkeys	0.2
Frying chickens	0.8

If weekend prices were used in computing margins in place of first-of-week prices and these 9 cities were representative of the entire 46-city sample, the average farm-retail spread on eggs for the 18-month period would have been reduced from 18.3 cents to 18.1 cents per dozen, or 1 percent. The spread on frying chickens would have been reduced from 22.2 cents to 21.4 cents per pound (retail, ready-to-cook basis), or 4 percent. For eggs the average farmer's share would have been increased form 69 to 70 percent and the farmer's share for frying chickens would have been increased from 58 to 59 percent. Actually, first-of-week and weekend prices should be weighted together according to volume of sales in each period so that the actual differences in spreads would be less than indicated. Also, these 9 cities were all large cities; BLS studies indicate that weekend special prices are more common in large cities than small cities.

The effect of these price differences on quarterly changes in the spread also was examined. Except for one quarterly comparison, the quarter-to-quarter change in farm-retail spreads for eggs, using weekend prices, was affected by no more than 0.1 cent. For chickens, the quarterly comparisons, using weekend prices, were from 0.3 cent to 0.6 cent different than those with first-of-week prices. Quarterly averages were used for these comparisons because data for individual products in the market-basket are published for quarters rather than for months. Monthly changes would, of course, be affected to a greater degree.

The effect of not using weekend prices on the overall market-basket statistics is likely to be small. Based on the preliminary results of the BLS studies, the farm-retail spread would at most be 1 percent lower if weekend prices were substituted for first-of-week prices. The trend in the overall spread (or retail cost and farmer's share) would be affected to a much lesser degree. Not including weekend prices introduces a consistent bias in the overall statistics as weekend prices are on the average lower, so that the measurement of trend is affected less than "level" measurements.

The exclusion of weekend prices affects "level" and trend measurements for some individual products and product groups more than for the overall market-basket statistics. Also, measurements based on one or a few cities would be affected more than those based on United States averages. Frying chickens, one of the items discussed previously, tends to be specialed as much or more than any other food item, according to results of the BLS studies and other available studies. Also, the farmer's share of the retail price is relatively large so that retail price changes tend to be reflected in considerably larger percentage changes in the farm-retail spread. Thus, the impact of not including weekend prices is likely to be maximized for a product such as frying chickens. Weekend prices of red meats present special problems because composite retail prices of all carcass cuts are estimated from the 3 or 4 major cuts priced by BLS. As these major cuts—round steak, chuck roast, hamburger, pork chops—are "specialed" more often than other cuts, the use of these weekend prices would tend to bias downward the average price of all cuts.

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[7] Additional details concerning the results of the special study being made by BLS are given in preliminary reports in the August, September, and November 1956 issues, and the January and February 1957 issues of "Retail Food Prices by Cities."

It seems likely that weekend specials are more frequent for products in ample supply, although more data are needed to assess the importance of this. If it is true, some lags in adjustment of reported retail prices to farm prices in periods of declining prices may be caused by not including weekend prices in price-spread computations.

CONCURRENT AND LAGGED SPREADS

AMS derives farm-retail spreads for most farm food products by comparing retail prices and farm values for approximately the same date, although some time necessarily elapses between sale by farmer and purchase by consumer. These are called "concurrent spreads."

But sugar beets and many fruits and vegetables for processing are harvested and sold only during a few months of the year; AMS publishes average farm prices for the entire season rather than monthly prices. Therefore, price spreads for processed fruits and vegetables and sugar are derived by comparing retail prices with farm values based on prices received by farmers during an earlier period. These are called "lagged spreads." These products may be sold to consumers as much as a year or more after the harvesting of the raw products from which they are derived.

When both farm and retail prices are rising, a concurrent farm-retail spread is smaller than a lagged spread. The reverse is true when both prices are falling. The extent of the difference, of course, depends on the length of the marketing period and the rapidity with which prices change. For highly perishable products, like fluid milk, the marketing period may be only a day or 2 and is not more than a few weeks for most perishable products. Concurrent and lagged spreads generally would not differ greatly for these products.

The method of calculating lagged spreads is similar to the "first in, first out" (FIFO) method of accounting, which charges inventories to cost of sales in the order of their acquisition. The use of a farm value concurrent with the retail price resembles the "last in, first out" (LIFO) method. The LIFO method gives a smaller estimate of a firm's profits than the FIFO method when prices are rising and a larger estimate when prices are falling.

GOVERNMENT TAXES AND PAYMENTS

During World War II the Government paid subsidies to processors and distributors of some commodities to enable them to pay relatively high prices to producers and at the same time keep prices to consumers relatively stable. Producer prices were kept at a high level to bring forth the needed production.

Subsidies were paid to livestock slaughterers; cheese and butter manufacturers; fruit and vegetable canners; dried fruit packers; peanut butter manufacturers; vegetable oilseed crushers and oil refiners; shortening manufacturers; sugar manufacturers; milk distributors; and to shippers of Northwest apples. In general, the period of subsidy payment was from June 1943 through the first half of 1946, but the time period varied by commodities.

Subsidies per retail unit were estimated for items included in the market basket. Because of the requirements which had to be met by processors and distributors in order to receive the payments and the way in which they were paid, it was difficult to estimate accurately the subsidy per retail unit. Estimates were made with the help of commodity specialists in the Department. These estimates are shown in footnotes to the tables for individual items.

The Government also made direct payments to producers of some products, particularly beef cattle, lambs, and milk. These payments were made to compensate the producer for high prices paid for feed. These payments also were contingent upon certain requirements.

During the depression years 1933–35, payments were made to producers of certain commodities under provision of the Agricultural Adjustment Act. This act provided for the collection of taxes from processors from which the payments were made. Food items for which processing taxes were paid were wheat, hogs, corn, peanuts, sugarcane, sugar beets, rice, and rye. The taxes ended when the act was declared unconstitutional early in January 1936. In 1937, the Sugar Act was passed which again taxed processors to furnish funds for payments to producers. This tax has continued in effect since 1937. There were also taxes on processors and distributors of margarine through the first half of 1950. Except for 1933–35, the effect of these taxes in the total market basket was small. The effect of the taxes in 1933–35 is shown in footnotes to commodity tables.

THE MARKET BASKET

In order to measure the average changes in retail prices of farm food products, payments to farmers for equivalent products, farm-retail spreads, and the farmer's share of the consumer's food dollar, AMS has combined all farm food products into a family "market basket." The retail cost, farm value, farm-retail spread (in dollar figures), and the farmer's share of the retail cost for the market basket are given for 1947 to date, monthly, in table 47, page 98. Index numbers for 1913–56, annual, are given in table 48, page 100.

What the Market Basket Represents.—The market basket currently used by AMS includes the estimated quantities of *farm food products bought for consumption at home* per urban wage-earner and clerical-worker family in 1952. It does not include imported or nonfarm foods such as bananas, pineapple, coffee, and fish. It does not include foods purchased in the form of restaurant meals. Therefore, expenditures for foods in this market basket do not represent all expenditures for food made by these families.

The quantities of the individual products in this market basket were derived chiefly from a survey of consumer expenditures in 1950 made by BLS. (The BLS adjusted the average food expenditures for 1950 for changes between 1950 and 1952 to derive estimates for 1952.) The survey covered a representative sample of families (2 or more persons) of wage earners and clerical workers, living in towns and cities ranging in population from 2,500 to that of New York City. These families represented about 64 percent of all people living in urban places in 1952 and about 40 percent of the total United States population. The average size of these families was estimated to be about 3.3 persons.[8]

Structure of Market Basket.—The market basket is made up of 7 product groups, classified according to the farm products from which the foods are derived. These product groups together with the number of food products for which retail prices and farm values are calculated are as follows:

Meat products	4
Dairy products	5
Poultry and eggs	2
Bakery and cereal products	9
Fruits and vegetables	32
Fats and oils	5
Miscellaneous products	3
Total	60

The 60 food products are those for which both farm and retail prices were available beginning in 1953. A smaller number was available before 1953. This list represents a somewhat larger number of food items at retail as retail prices of some products, like beef, pork, and milk, are weighted averages of prices of several items.

The list of foods by product groups, the quantity weights attached to each food, and the relative importance of each food in the retail cost of the market basket in January 1953 and January 1957 are given in table 43. Variations in the relative importance of food items between the two periods reflect shifts in the relative prices of these foods.

COMPUTATION OF MARKET BASKET

The retail cost and farm value of the market basket are calculated by totaling the estimated retail cost and farm value for the 7 product groups. The farm-retail spread for each group and for the market basket is the difference between the retail cost and the farm value. The farmer's share is calculated by dividing the farm value by the retail cost.

The retail cost and farm value for each of the commodity groups in a given month are estimated by multiplying the retail price and farm value of the priced items in the group by the quantity weights attached to each item. In general, the same weights are used for both retail prices and farm values. Some of the variations in methods are described in later discussions for commodity groups.

The market basket and product groups are essentially index-number measurements computed by a fixed weight aggregative formula although the statistics published in this report for 1947–57 and currently in The Marketing and Transportation Situation are value aggregates.

Derivation of Weights.—The 60 items represent a sample of all farm food products in the family market basket. Therefore, the expenditures for items not priced were allocated to the priced items in the group. The allocations for most items were similar to those used by BLS in its food price index, which are based on studies of the similarity of price movements of various items. For example, expenditures for cream, buttermilk, and various other milk products were added to expenditures for fresh milk. The quantity weights listed in table 1 for each food item were derived by dividing the family expenditure allocated to the priced

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[8] "The Consumer Price Index, A Short Description of the Index as Revised, 1953," Bur. Labor Statis., U. S. Dept. Labor, Jan. 1953, p. 1.

TABLE 43.—*The market basket of farm food products: List of priced items, unit, weight, and relative importance of each item in the retail cost of the market basket and product group, January 1953 and January 1957*

Item	Unit	Weight [1]	Relative importance			
			January 1953		January 1957	
			Total	Group	Total	Group
			Percent	*Percent*	*Percent*	*Percent*
MARKET BASKET			*100.0*		*100.0*	
Meat products			*26.4*	*100.0*	*24.8*	*100.0*
Beef, all [2]	Pound	204.5	14.2	53.7	12.2	49.3
Lamb	do	12.7	.8	3.1	.8	3.1
Pork [3]	do	205.5	10.5	39.8	11.0	44.4
Veal cutlets [4]	do	12.2	.9	3.4	.8	3.2
Dairy products			*18.8*	*100.0*	*19.4*	*100.0*
Butter	Pound	28.0	2.2	11.8	2.1	10.9
Cheese, American process	do	39.3	2.4	12.4	2.3	11.8
Evaporated milk	14½ ounces	89.7	1.3	7.1	1.3	6.8
Fluid milk [5]	Quart	496.5	11.4	60.6	12.2	62.7
Ice cream	Pint	50.8	1.5	8.1	1.5	7.8
Poultry and eggs			*11.5*	*100.0*	*9.2*	*100.0*
Chickens, frying (ready-to-cook)	Pound	85.8	5.3	46.4	4.1	44.2
Eggs	Dozen	96.3	6.2	53.6	5.1	55.8
Bakery and cereal products			*14.0*	*100.0*	*15.7*	*100.0*
Biscuit mix [4]	20 ounces	26.1	.7	5.2	.7	4.5
Bread, white	Pound	411.0	6.6	46.8	7.7	49.2
Crackers, soda	do	26.5	.7	4.8	.7	4.8
Corn flakes	12 ounces	20.4	.4	3.1	.5	3.0
Corn meal	Pound	16.9	.2	1.5	.2	1.4
Flour, white	5 pounds	48.5	2.5	17.8	2.7	17.0
Rice [4]	Pound	20.8	.4	2.7	.4	2.5
Rolled oats	20 ounces	18.4	.3	2.4	.4	2.5
Vanilla cookies [4]	7 ounces	95.3	2.2	15.7	2.4	15.1
All fruits and vegetables			*21.2*	*100.0*	*22.0*	*100.0*
Fresh fruits and vegetables			*12.5*	*58.8*	*12.8*	*58.3*
Apples	Pound	113.0	1.6	7.5	1.7	7.7
Grapefruit	Each	28.1	.3	1.4	.3	1.5
Grapes [4]	Pound	15.4	.3	1.5	.3	1.4
Lemons	do	11.5	.2	1.1	.2	1.1
Oranges	Dozen	33.2	1.4	6.7	1.8	8.4
Peaches [4]	Pound	37.4	.5	2.2	.5	2.3
Strawberries [4]	Pint	16.4	.3	1.6	.4	1.9
Watermelons [4]	Pound	169.5	.7	3.3	.6	2.8
Beans, green	do	23.3	.8	3.5	.7	3.0
Cabbage	do	23.8	.2	.8	.2	.9
Carrots	Pound	35.3	.4	2.0	.5	2.3
Celery	do	33.2	.5	2.2	.6	2.6
Lettuce	Head	52.1	.8	3.7	1.0	4.5
Onions	Pound	47.8	.5	2.5	.4	1.7
Potatoes	10 Pounds	36.4	2.5	11.7	2.1	9.5
Sweetpotatoes	Pound	19.5	.3	1.6	.3	1.2
Tomatoes	do	37.1	1.2	5.5	1.2	5.5
Processed fruits and vegetables			*8.7*	*41.2*	*9.2*	*41.7*
Canned			*6.8*	*32.0*	*7.1*	*32.2*
Fruit cocktail [4]	No. 303 can	17.3	.5	2.1	.5	2.1
Orange juice	46-ounce can	33.4	1.0	4.9	1.3	6.0
Peaches	No. 2½ can	26.4	.9	4.2	.9	4.2
Beans with pork	16-ounce can	21.7	.3	1.4	.3	1.5
Catsup [4]	14 ounces	20.2	.5	2.1	.5	2.2
Corn	No. 303 can	37.8	.7	3.4	.7	3.0
Pickles, sweet [4]	7½ ounces	37.2	1.1	5.1	1.0	4.7
Peas	No. 303 can	39.0	.8	3.9	.9	3.9
Tomatoes	do	67.1	1.0	4.9	1.0	4.6
Frozen			*1.2*	*5.7*	*1.3*	*5.7*
Beans, green	10 ounces	10.0	.2	1.1	.3	1.1
Orange juice concentrate	6 ounces	26.3	.5	2.3	.5	2.3
Peas	10 ounces	18.6	.4	1.7	.4	1.7
Strawberries	do	4.2	.1	.6	.1	.6
Dried			*.7*	*3.5*	*.8*	*3.8*
Beans	Pound	24.6	.4	1.9	.4	1.8
Prunes	do	12.3	.3	1.6	.4	2.0

TABLE 43.—*The market basket of farm food products: List of priced items, unit, weight, and relative importance of each item in the retail cost of the market basket and product group, January 1953 and January 1957*—Continued

Item	Unit	Weight [1]	Relative importance			
			January 1953		January 1957	
			Total	Group	Total	Group
			Percent	*Percent*	*Percent*	*Percent*
Fats and oils			*4.0*	*100.0*	*4.6*	*100.0*
Lard [4]	Pound	23.0	.4	9.1	.5	11.2
Margarine	do	37.5	1.1	27.6	1.1	25.0
Peanut butter	do	9.1	.4	11.0	.5	10.8
Salad dressing	Pint	23.5	.8	19.8	.9	18.8
Vegetable shortening	3 pounds	15.6	1.3	32.5	1.6	34.2
Miscellaneous			*4.1*	*100.0*	*4.3*	*100.0*
Corn sirup	24 ounces	35.1	.8	19.8	.9	20.5
Grape jelly [4]	12 ounces	21.9	.5	12.6	.6	14.0
Sugar	5 pounds	12.7	.7	16.1	.7	16.5
Other [6]			2.1	51.5	2.1	49.0

[1] Some of the priced items represent other similar items for which prices are not available. Weights were derived by dividing the total expenditure attached to each item by the average retail price. For example, the weight given the price for frying chicken was determined from the estimated expenditures per urban wage-earner and clerical-worker family for all poultry in the base period (1952).

[2] Composite retail price computed from prices of round steak, rib roast, chuck roast, and hamburger. Price-spread series for beef published currently in The Marketing and Transportation Situation is for Choice grade only.

[3] Composite retail price computed from retail prices of pork chops, bacon, whole ham, and estimated retail value of minor pork products.

[4] Retail price and estimated farm value are used in computing retail cost and farm value of market basket, but price-spread series for individual commodity is not published currently in The Marketing and Transportation Situation.

[5] Computed from prices of milk bought in grocery stores and milk delivered.

[6] Includes miscellaneous canned and partially prepared foods; trend in retail cost carried by trend in retail cost of canned vegetables.

items by its price in January 1953.[9] Therefore, the quantity weight of each priced item may represent more than the estimated quantity of that item bought by city families in 1952.

Index Numbers, 1913–56.—While the major interest in farm-retail spreads for farm food products is usually in current data and in trends since the end of World War II, comparisons with earlier periods are of historical interest and useful for analytical purposes. Continuous series of index numbers on a 1947–49 base were computed for the period 1913 to date. Index numbers were computed for retail cost, farm value, and farm-retail spread by "linking" together the current and previous series (which was based on 1935–39 weights) at 1947.[10]

The dollar figures for the market-basket series which are published currently can be converted to comparable index numbers by dividing by the 1947–49 averages (footnote 1, table 48). As the farmer's share of the consumer's dollar is given in percentages, index numbers were not computed for this series. The farmer's share of the consumer's food dollar calculated for the current market basket averaged about 1 percentage point below corresponding figures computed for the previous series for the period 1947–52, mainly because of the increased weight given many processed foods in the postwar period, which generally have a lower farmer's share than most other food products.

RELIABILITY AND ADEQUACY OF MARKET-BASKET SERIES

Purpose of Series.—The retail cost of the market basket or of the commodity groups is aimed at measuring the *change in price* of a fixed quantity of foods. The purpose of the corresponding farm-value series is to measure the *change in price* or payments to farmers for a fixed quantity of farm products. The principal purpose of the market-basket series, however, is to measure the change in the spread between farm and retail prices; that is, the cost (and profits) of transporting, processing, and distributing a fixed quantity of food products from the farmer to the consumer. Another purpose is to measure changes in the percentage that the farm value is of the retail-store cost or the farmer's share of the consumer's retail food dollar.

Limitations of Series.—As the market basket statistics are computed from the series for individual products, the limitations in representativeness, sampling errors, and other inadequacies of data for these series (pp.68-72) affect the adequacy and reliability of the market basket data. In addition, some other limitations apply to the commodity groups and the market basket. The accuracy and representativeness for the market basket depend not only on the accuracy of the individual price-spread series but on how well these series represent other food products for which prices are not available at both the farm and retail level. For some groups, particularly processed fruits and vegetables, the estimates are less reliable before 1953 because data are available for a much smaller number of items.

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[9] Weights were computed with prices for January 1953 because this was the first month that BLS published its revised index. BLS estimated family expenditures for 1952 were carried forward to January 1953 on the basis of price trends.

[10] Previous series are described in more detail on pp. 75-76.

The market-basket data probably are less reliable for the periods before the middle 1930's when both retail and farm prices were not available for many products. This is particularly true of the period 1913-19 when only a small number of farm foods were priced at retail.

The market-basket series which were "linked" together to obtain historical series of index numbers varied somewhat in methods of computation. These differences should not affect, to any marked degree, the representativeness of these index numbers as a measurement of long-term trends in price spreads and farmer's shares of the consumer dollar spent for food products.

For the period 1913 to date, the general weighting pattern in the market basket was changed only once. However, weights given some individual food items were changed more often as the list of foods with available farm and retail prices changed frequently. Changes in the list of foods were related partly to the adequacy of coverage of the indexes and partly to the changes in food production and marketing. When new commodities are added or dropped from the market basket, weights are adjusted so that the level of the retail cost of the commodity group is unaffected by the change in the number of commodities. A similar procedure is followed for the farm value of the group. The adjustments in weights for the farm-value series are determined separately from those for the retail-cost series so that the level of the farm-retail spread and farmer's shares for the group and market basket is unaffected by the change in weights in a particular month. The trends in the series over time, however, may be affected by the change in items and adjustment in weights.

COMPARISONS WITH FORMER MARKET-BASKET SERIES

A comprehensive revision of the market-basket data was published in the Supplement to the July-September 1953 issue of The Marketing and Transportation Situation. Some further improvements have been made in the revised data presented in this report but, for the most part, the methodology for present market basket is the same as that published in 1953.

Data for a market basket, representative of 1935-39 food purchases, were first computed and published in 1945 (*36*). In earlier price-spread reports which were issued in the mid-1930's, averages were computed by assigning weights to foods for which price spreads were available (*34, 35*). No allowance was made for other farm food products.

The basic methods now used to derive price-spread series for individual commodities are substantially the same as those used previously. The major changes in computing the market-basket data are in the weights given individual commodities, in the retail-price series, and in the inclusion of more processed food products. Most of these changes were related to the BLS revised Consumer Price Index which now represents a larger segment of the population than before and includes prices for a larger number of food items. Farm values and byproduct allowances are computed in the same manner as previously but new sources of price data and other information have resulted in revised farm values for many commodities.

The present market basket relates to urban families only. Retail prices are those paid by urban consumers and are not adjusted to represent an average price paid by all United States consumers. The weights assigned to individual foods in the new market basket represent purchases of farm food products by these urban families in 1952. Formerly, the market-basket quantities represented purchases by all United States consumers in the 1935-39 period and retail prices were adjusted to represent average United States prices.

The retail cost of the present market basket for 1952 was about one-third larger than the figure for the market basket with 1935-39 weights. This higher cost resulted in part from the higher rate of per capita food consumption in 1952 than in the prewar period. More processed foods and, therefore, more marketing services were bought by urban families in 1952 than were bought by the average family in 1935-39. Urban families buy a larger proportion of their food than rural families, whose purchases were included in the previous market basket. Also, the average size of the urban family in 1952 (3.3 persons) was larger than the "family" of 3 consumers used previously.

The shift to new weights for the market basket resulted in some changes in the relative importance of the various commodity groups. The largest change was in the poultry and eggs group, which accounted for 11 percent of the total retail cost of the revised market basket in 1952, compared with 7 percent for the former series. The relative importance of fruits and vegetables showed the largest decline, from 24.1 percent to 20.6 percent. The relative importance of meat products was slightly lower in the revised series. This resulted in part from including lard in the fats and oils group. The relative importance of other groups did not change significantly.

Price spreads are now computed only for those products for which both retail prices and farm prices are available. This means that variations in margins and farmer's shares for commodity groups and the market basket are dependent on the variations in margins and farmer's shares for the priced items. Formerly, farm values were computed for several items for which there are prices received by farmers but no corresponding retail prices.

RELATION TO OTHER SERIES

The retail-cost and farm-value series in the market basket are sometimes compared with other Government indexes of retail food prices and of prices of farm products. Trends in these series vary because of differences in definition of what the series are supposed to measure and differences in weights and other methods of calculation.

Comparison of Retail-Cost Series with Other Indexes of Retail Food Prices.—Food-price indexes are computed and published in connection with the BLS Consumer Price Index and the AMS Index of Prices Paid by Farmers. Beginning with 1953, BLS publishes a "food" index including food away from home and a "food at home" index. Formerly, the food index did not include restaurant meals and related only to food bought for consumption at home. AMS publishes an index of prices paid by farmers for food and tobacco beginning in March 1935.

The weights used in the market basket are necessarily different from those in the other series because of the different purposes of these indexes. The market basket does not include imported or nonfarm foods. These foods represent from 12 to 15 percent of the weight in the BLS index of food at home and almost 20 percent of the AMS food and tobacco index. During recent years, prices of some imported foods have increased much more than farm food products. Coffee prices in early 1957 were double the 1947–49 average; the weight on coffee in the BLS food index is a substantial part of the total weight on imported foods.

Beginning with January 1953, the weights in the market basket are more nearly like those in the BLS food at home index than previously. There are still several differences, however. Besides the exclusion of imported and nonfarm foods, prices of four additional items (frankfurters, luncheon meat, vegetable soup, and baby food), which had a relative importance of 6.0 percent in the BLS food at home index in January 1953, are not used in computing the retail cost of the market basket because no reliable estimates can be made of farm product equivalents for these products. The weight carried by these priced items is carried by other priced items in the appropriate commodity group of the market basket. The use of actual food prices for computing the retail cost also causes some differences in trend as compared with the computational methods used by BLS. The effect of changes in BLS store weights on the market basket was described on p. 67.

BLS did not make any retroactive calculations of indexes using the revised weights introduced in January 1953. AMS recalculated the market basket data beginning with 1947. Therefore, during the period 1947–52 (and also before 1947) there were differences in weights that arose because different time periods were used to derive weights. Rapid shifts in supplies of perishable farm commodities (meats, livestock products, fresh produce) may result in yearly fluctuations in relative proportions of various products consumed in addition to other basic trends in consumer eating habits, such as shifts away from grain products and potatoes. The year or period of years used as the base for determining weights may be an important factor in affecting trends in various indexes.

Comparison of Farm-Value Series with Prices Received by Farmers.—The farm-value series is not equivalent to the AMS index of prices received by farmers. The farm-value series is for food products only, and the weights are those used for the retail-cost series. The farm-value series for beef does not reflect, for example, all of the seasonal change in prices received for cattle because it measures only the farm value of higher grades of cattle (the only grades for which BLS prices are available at retail) and, of course, is not affected by prices of stockers and feeders. The weights used in the AMS "prices received" index are for different time periods and reflect all sales of products, including foods for exports and nonfood products. In addition, changes in the farm values of those commodities for which byproduct allowances are made are affected by changes in prices of the byproducts.

MEAT PRODUCTS

Price-spread series are published for Choice grade beef, pork (excluding lard), and lamb. Annual data are given for 1919–56, with quarterly data beginning in 1947 (tables 51–53, pp. 103-5). Data for the meat products group in the market basket, which are based on estimates for beef, pork, lamb, and veal, are published quarterly beginning in 1947 in table 49, page 101. Index numbers for the group, annual 1919–

56, are given in table 50, page 102.

BEEF, CHOICE GRADE

U.S. Choice grade beef usually accounts for about half of our total supply of block beef. Furthermore, it is the only grade of beef for which adequate statistical data are available for the calculation and publication of a price-spread series on a continuing basis. BLS prices are for Choice grade carcass cuts but AMS prices received by farmers are for all beef cattle. Data are more adequate, however, for adjusting prices received by farmers to represent Choice grade slaughter cattle than for adjusting retail prices to represent all beef (including processed) products.

Farm Value

The gross farm value of beef cattle equivalent to 1 pound of Choice grade retail cuts is the estimated price received by farmers for Choice grade beef cattle multiplied by the farm product equivalent of 2.16 pounds. The net farm value is that portion of the gross farm value imputed to carcass meat, after allowance for the value of edible and inedible byproducts.

Farm Equivalent.—The estimate of 2.16 pounds of beef cattle necessary for 1 pound of carcass cuts was derived by using an average carcass yield of 58 percent of live weight and a retail yield of 80 pounds from 100 pounds of carcass, or 46.4 pounds of retail cuts from 100 pounds of live weight Choice grade cattle. These are estimated average yields as actual yields vary depending upon the method of cutting, quantities boned, live weight of cattle, and other factors.

Prices Received by Farmers.—Prices received for U.S. Choice grade slaughter cattle, which are used in computing the farm value, are estimated by adding a "premium" for Choice grade to the estimated price received by farmers for all slaughter cattle. AMS average prices received for cattle include prices of all classes, qualities, and kinds of slaughter cattle and also prices of breeding cattle and feeder cattle. The effect of prices of feeder cattle on annual average prices for slaughter cattle is small but its effect on monthly averages is often fairly substantial in the latter part of the year—September through December. Therefore, monthly changes in the estimated price received by farmers for all slaughter cattle are determined by monthly changes in the prices paid by packers for all cattle slaughtered under Federal inspection. But the actual level is "tied" to the annual average price received by farmers because the cost to packers includes the marketing expenses of beef cattle from sale by farmers until purchase by a packer at a livestock market.

Premium for Choice Grade.—The monthly premium for Choice grade slaughter cattle is the difference between an estimated cost to packers of Choice grade cattle and the average cost to packers for all cattle slaughtered under Federal inspection. The latter series is published in Livestock Market News, a weekly publication of the Livestock Division, AMS. The premium for Choice grade varies by months because of the variation in marketings of cattle by grades. Cattle slaughtered are of higher average grade in the summer than in the winter.

The estimated cost to packers of Choice grade slaughter cattle is derived from prices for Choice grade slaughter steers on the Chicago, Sioux City, Omaha, Kansas City, St. Louis, South St. Paul, and Denver markets.[11] The weighted average prices of Choice grade steers in these seven markets are adjusted downward to allow for lower prices of Choice grade heifers. This price adjustment for heifers is based on the differences between the market quotations for 900–1,100 pound Choice grade steers and 600–800 pound Choice grade heifers in the seven markets.

Prices and quantities by grades are available in seven markets beginning in 1956. From January 1949 through 1955, these data were available in three of these markets—Chicago, Sioux City, and Omaha. Before 1949, estimated differentials between Choice grade market prices and prices paid by packers for all grades in 13 cities were used. Weights for averaging prices in the 13 cities were changed quarterly but were rough estimates only.

Byproduct Allowances.—To secure comparability at the farm level with retail value of carcass beef, it is necessary to estimate the portion of the price received by farmers which should be imputed to byproducts. As the retail price is for carcass cuts only, allowance is made for both edible and inedible byproducts. Oleo oil, tallow, hides, bones, edible offal (liver, hearts, tongues, etc.), casings, and head meat are obtained as byproducts of the slaughter of beef cattle. The principal inedible byproduct in terms of value is hides; the principal edible byproduct is liver.

The value of the average quantities of meat and nonmeat byproducts from 100 pounds of live weight is computed from prices quoted in the "National Provisioner" for the Chicago wholesale market. The percentage that the value of these byproducts represents of the combined wholesale value of byproducts and 58 pounds of Choice grade carcass beef in Chicago is applied to the gross farm value to obtain the estimated byproduct allowance at the farm level. Percentages computed in this way are assumed to represent the portions of the gross farm value ascribed to meat and nonmeat byproducts. Percentages are calculated each month to reflect relative variation in prices. Some byproduct items are priced on a cleaned basis and include some packaging, which tends to increase the percentage attributed to byproducts. However, medicinal products are not included because price series are not available.

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[11] Weighted average prices of steers sold out of first hands for slaughter, reported by grades in Livestock Market News, a weekly publication of the Livestock Division of AMS.

Retail Prices

BLS prices only three retail cuts of Choice grade beef—round steak, rib roast, and chuck roast—which account for less than one-third of the total weight of cuts from the carcass. Hamburger, most of which comes from grades lower than Choice, also is priced. The average composite price per pound of the entire 46.4 pounds of retail cuts is estimated from the prices of these items. The percentage weights used to weight BLS prices were obtained by grouping the estimated average yields of retail cuts from 100 pounds of carcass. In grouping the cuts, consideration was given to similarity of price trends and to the wholesale cut from which the retail cut comes. The yields and weights are as follows:

Retail cut	*Pounds*	*Percentage weights*
Round steak, top	3.75	
Round steak, bottom	4.85	
Boneless rump	3.45	
Top sirloin	4.80	
Porterhouse steak	6.80	
Sirloin steak	7.25	
Flank steak	.65	
Total on round steak	31.55	39.5
Rib roast	6.25	
Blade roast	2.65	
Total on rib roast	8.90	11.1
Chuck roast	7.95	
Boneless stew	8.90	
Cross rib	4.75	
Corner piece	1.80	
Thick plate	1.45	
Navel	5.75	
Brisket, bone in	5.00	
Total on chuck roast	35.60	44.5
Hamburger (trimmings)	3.95	4.9
Total	80.00	100.0

The level and trend of prices computed in this manner were checked by use of prices of all cuts collected in New York City by the Market News Service in a small number of retail stores and from prices collected in studies by the Market Organization and Costs Branch.

Before 1943, a larger number of cuts were priced by the Bureau of Labor Statistics in some years. For the period 1919–42, composite retail prices were calculated by using estimating equations. These equations were based on statistical regression analyses which used the composite price of all cuts in the New York City series as the dependent variable and the BLS prices in New York City for the cuts for which prices were available on a national average basis as independent variables. The equation was changed when the number of cuts priced was changed. Estimating equations, based on postwar price relationships in these series, gave more erratic results than the current method of percentage weights which groups carcass cuts by similarity of type and price trend.

PORK

Price spreads as now calculated are estimates for pork sold as retail cuts—hams, picnics, bacon, loin cuts, spare ribs, Boston butts, and jowl meat—about 47 pounds of fresh and cured pork from 100 pounds of live hog. They are estimated for retail cuts only because adequate data are not available for valuing at retail the meat made into sausage, canned, or otherwise processed.

Farm Value

The gross farm value of hogs equivalent to 1 pound of retail cuts is the estimated average price received by farmers, which is adjusted to exclude prices of sows, multiplied by 2.13 pounds. The net farm value is that part of the gross farm value imputed to pork for retail cuts, after allowance for the value of lard, "variety" meats and inedible byproducts.

Farm Product Equivalent.—The equivalent of 2.13 pounds of hog per pound of retail cuts was obtained from the estimate of 47 pounds of fresh and cured retail cuts per 100 pounds of hog. The average yield of pork and lard was estimated at 70 pounds. The other products are 8 pounds of variety meats such as heart, liver, tongue, head meat, pigs feet and trimmings, and 15 pounds of lard. The 47 pounds of fresh and cured cuts allows for curing and smoking, slicing of bacon, and small cutting losses.

Prices Received by Farmers.—A premium is added to the AMS price received by farmers for hogs to take account of the lower prices of heavy sows which do not normally reach the consumer as retail cuts, but are canned or sold for institutional use. The premium is based on the average cost to packers and shippers in eight Corn Belt markets (7 before 1951). The average cost of barrows and gilts and the average cost of sows in the eight markets are weighted together to obtain an average cost to packers and shippers for all hogs in these markets. The difference between the average for barrows and gilts and for all hogs is the premium which is added to the AMS price received by farmers for all hogs. This premium is relatively small except in the summer months, when it may amount to 5 to 10 percent of the average price for all hogs. The cost-to-packer data are not available before 1938. The average price received by farmers for hogs other than sows during 1919–37 was estimated by applying to the monthly published price a ratio for each month computed from 3-year averages (1938–40) from the cost-to-packer data. These monthly adjusted prices were averaged to obtain an annual average price for hogs other than sows.

Byproduct Allowance.—The byproduct allowance is that part of the gross farm value imputed to the variety meats, lard, and inedible byproducts such as bristles. The value of inedible byproducts is estimated as 1.5 percent of the gross farm value. The farm value of the variety meats and lard is computed from wholesale price relationships of pork products at Chicago. That is, for each month a ratio of the value of the edible byproducts to the total wholesale value of all pork products is computed and applied to the gross farm value.[12]

Retail Prices

Retail prices collected by BLS are available for only three cuts—smoked whole ham, sliced bacon, and center pork chops. The value of the major pork products is estimated by weighting the prices of these three cuts by their average yields per 100 pounds of live weight, plus additional weight to include the value of end chops and smoked picnics. The weights used are:

	Pound
Pork chops, center cut	7.58
Whole ham, smoked	14.67
Sliced bacon	11.85
Total	34.10

The major products for which the value is estimated by use of the above weights account for about 36.5 pounds from 100 pounds of hog.[13] The additional weight on the three products was calculated by a regression analysis, using New York market news data. The value of end chops and picnics was used as the dependent variable and related to prices of center chops, whole ham, and sliced bacon. The value of about 9.5 pounds of end chops and picnics is estimated to be the same as the value of 3.30 pounds of center chops, 1.93 pounds of whole ham, and 1.85 pounds of sliced bacon. Prices now available are not adequate for reliable estimates of the total value of the major cuts; beginning in February 1957, prices of additional loin cuts and picnics (that may improve the estimates of a composite retail price) are collected by BLS in four cities.

The estimated value of the 36.5 pounds of major products—chops, hams, bacon, and picnics—is inflated to include spare ribs, Boston butts, and jowl meat. The inflation factors which vary by months are computed from wholesale price relationships in Chicago. This method assumes that the same price relationships are maintained at the retail level. The average price per pound of all pork cuts in table 53 is obtained by dividing the inflated value by 47—the estimated number of pounds at retail from 100 pounds of hog.

For the period 1934–38, the value of the major products was estimated by weighting prices of whole ham, sliced bacon, loin roasts, and picnics as follows: Whole ham, 12.74 pounds; sliced bacon, 10.00 pounds; loin roasts, 8.56 pounds; and picnics, 5.23 pounds. The values for this period were adjusted upward by 3 percent to join the series to that for later years. This adjustment also makes allowance for valuing the pork loin as chops instead of roasts. Before 1934, prices were available for only sliced bacon, sliced ham, and pork chops, which were also priced during 1934–38. Monthly data for 1934–38 were used to compute an estimating (regression) equation for determining the value of the major products before 1934.

LAMB

Data for lamb are less adequate for computing price spreads than those for beef and pork, especially data for computing retail prices and pelt and other byproduct allowances.

Farm Value

The gross farm value of lamb equivalent to 1 pound of retail cuts is the price received by farmers for lamb multiplied by a farm product equivalent which varies by months and averages 2.37 pounds. The net farm value is that portion of the gross value attributed to the carcass cuts.

Farm Product Equivalent.—The yield of carcass from live weight of lamb varies by months because of the varying length and weight of wool on the pelt. Carcass yields range from 46.0 to 48.7 percent of live weight. It is estimated that the retail cuts average 90 percent of the carcass weight. Reducing the carcass yields to retail weight gives farm product equivalents ranging from 2.28 to 2.42 pounds of live lamb for 1 pound of carcass cuts.

Byproduct Allowance.—To compare farm prices of lamb with retail prices of carcass cuts, it is necessary to allow not only for the loss of weight between farm and retail sales but also to estimate the portion of the farm price which should be imputed to the carcass. The value imputed to pelt is obtained by use of a method illustrated in a trade publication.[14] The trend in value of pelts is carried by the Boston price of a specified grade of wool. The trend in the value of meat byproducts which averages from 4 to 5 percent of the gross farm value of lamb is carried by the trend in average market price of live lamb.

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[12] Chicago wholesale values are those computed by the Livestock Division, AMS, to obtain estimates of the total wholesale value of all hog products.

[13] The weights total less than 36.5 pounds because the additional weights added to the 3 priced cuts represent lower priced cuts on the average.

Retail Price

BLS collects prices of leg of lamb, which in the past was often said to be an approximate average of the price of all cuts. Instead of using the price of leg of lamb as representative of the average, however, a monthly ratio of the average price of all cuts to the price of leg of lamb is computed from Market News retail prices collected in New York City. This ratio is applied to the BLS price of leg to estimate the composite retail price of all retail cuts of lamb. Beginning in February 1957, prices of 4 additional lamb cuts are being collected by BLS in 5 cities. These 5 cities represent major lamb-consuming centers. When available, these prices will be used in addition to leg of lamb price to estimate the average price of all cuts.

PRODUCT GROUP

The retail cost and farm value of the meat products group in table 49 are based on estimates for beef, pork, lamb, and veal. Lamb and veal are of relatively minor importance. For the relative importance of the meat products group in the market basket and the relative importance of these items in the meat products group, see table 43, page 73.

The retail cost and farm value of beef and pork that are weighted with lamb and veal to obtain the estimates for the meat products group are not those for Choice grade beef and retail cuts of pork which were described in the preceding section. These series were not used because their trends do not necessarily represent the trend for all grades and kinds of beef and pork bought by consumers. The series used for the group totals were derived as a closer approximation to all beef, including lower grades sold both as retail cuts and processed, and all pork including that not normally sold as cuts. The series for Choice grade lamb were used as trend for all lamb and mutton, as mutton and lower grades of lamb are relatively unimportant in the totals for all meat. The methods used to estimate the beef, pork, and veal components of the product group are discussed in the succeeding paragraphs.

The weights used for the period 1947 to date are based on the Bureau of Labor Statistics estimated expenditures of urban families for meat products in 1952. Some adjustments were made, however, to increase the weight on beef relative to pork, to make the weights more representative of average consumption patterns in the postwar period. The BLS expenditure survey, from which their expenditure weights were derived, was taken in 1951, a year in which per capita consumption of beef was at the lowest point since 1944 while per capita pork consumption was near its highest postwar point.

Out of total per family expenditures of over $280 in 1952, expenditures for cold cuts, frankfurters, smoked sausage, canned meat, chopped meat, baby foods, hearts, kidneys, etc. amounted to about $50. Only two of the above items are priced by BLS at retail. They are frankfurters and canned luncheon meat (pork) but no information is available on the value of meat going into these products or what the spread might be. Therefore, the retail prices were not used. To include the expenditure for these processed meats, the total was allocated to expenditures for beef and pork before computing quantity weights—two-thirds to beef and one-third to pork.

Annual indexes in table 50 for 1947–56 were computed from the data in table 49. Before 1947 the weights for the different kinds of meat were based on 1935–39 average expenditure per family of three persons. The proportions are similar to those for the later period, with proportions of beef and pork changed very little but with relatively more weight on veal and lamb. The series for the two periods are joined at 1947. Some variation in methods of computing the separate series before 1947 was necessary because of lack of comparable data.

Beef

Because of the wide range in prices by grade of cattle and beef, this item presents the major problem in computing the retail cost and farm value of the meat products group. No really satisfactory data are available that will give an accurate picture of both farm and retail price trends, particularly from month to month within a year.

Retail Price.—The average retail price of beef used in the meat products group is computed from the prices collected by BLS for three Choice cuts and the prices of hamburger—the same prices as used for estimating the average retail price of Choice grade beef. The weights which correspond to those used by BLS in its food price index, expressed as percentages, are:

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[14] Lamb Facts, a publication of the National Livestock Producers Association.

Item	Percent
Round steak	28.6
Rib roast	6.9
Chuck roast	28.3
Hamburger	36.2
Total	100.0

Weighting the prices by these weights gives average prices several cents lower than those estimated for Choice grade cuts because of the much heavier weight on hamburger. During periods of increased marketings of lower grade cattle, hamburger prices appeared to fall more than prices of Choice grade cuts and, therefore, may reflect in part the relatively lower prices for the lower grade cattle. Composite prices estimated in this way may reflect reasonably well the trend in the average prices of all fresh beef sold in retail stores but probably not the prices of the 25 percent or more of beef sold in processed form. Prices of processed products tend to be less variable than prices of fresh beef.

Farm Value.—The net farm value of beef for the meat products group is estimated by subtracting from the retail price the farm-retail spread for Choice grade beef. This procedure assumes that the spread for Choice grade beef is representative of that for all grades of beef. The trend in the farm values obtained by this procedure does not always follow the trend in prices received by farmers for all beef cattle, particularly during periods of unusually heavy marketings of lower grade slaughter cattle and of stocker and feeder cattle.

Pork

For the meat products group, the individual price spread series for pork cuts is adjusted to represent all pork products (excluding lard).

Farm Value.—The gross farm value is the AMS price per pound received by farmers multiplied by 1.82 pounds, estimated to be the equivalent of 1 pound of pork at retail. This assumes 55 pounds of pork (fresh and processed) from 100 pounds live weight and further assumes that processing of some of the products does not change the average yield. The byproduct allowance is the value imputed to lard and inedible byproducts, with the lard value computed from Chicago wholesale price relationships on a fresh-weight basis.

Retail Price.—The retail price is estimated by adding the margin for retail cuts of pork (table 53) to the net farm value. This procedure assumes that the farm-retail spread for the processed products averages about the same as for the retail cuts.

Lamb

The price-spread series for lamb is used in the meat products group without any change. Expenditures for lamb also include mutton but, as the total weight in the group is less than 5 percent, any adjustment for the lower price of mutton would have little affect on the group.

Veal

A price-spread series for all veal is estimated for use in computing the meat products group. The only cut for which BLS retail prices are available is veal cutlets. Prices received by farmers may include prices of larger calves as well as prices of veal calves.

Farm Value.—The farm value weighted into the meat products group is obtained by multiplying the price received by farmers for calves by an estimated farm equivalent of 2.0 pounds of live weight for 1 pound of retail cuts. The equivalent is based on an average dressing yield of 55 percent and a retail weight of 91 percent of carcass weight. Data are not available for calculating byproduct adjustment factors; therefore, those for beef are used for veal.

Retail Prices.—Retail prices beginning in 1939 are estimated by computing a ratio of average price for all cuts to average price of cutlets using New York Market News data, and applying this ratio to the average price of veal cutlets reported by the BLS. Before 1939, a constant ratio was used.

DAIRY PRODUCTS

Price-spread series are published for ice cream, butter, cheese, evaporated milk, and fluid milk (tables 56–60, pp. 108-11). Data for the dairy products group in the market basket are given quarterly, beginning in 1947, in table 54, page 106. Index numbers for the group, annual 1919–56, are given in table 55, page 107.

FLUID MILK

Retail Prices

Farm-retail spreads for milk are on a per quart basis (table 60, p. 111). The retail prices are weighted averages of prices for milk delivered to homes and that sold in retail stores. Before June 1941, the BLS collected prices only for milk delivered to homes. Average prices for milk sold in stores were estimated for the period before that date by multiplying the corresponding annual average BLS prices for milk delivered to homes by the ratio of the monthly store prices to delivered prices during June-December 1941.

To reflect the change in the proportion of milk delivered to homes and sold in retail stores, the AMS has gradually increased the weight assigned to retail-store prices in computing the weighted average. According to BLS data, the proportion of milk sold in retail stores increased from 30 percent of the total in 1935 to 52 percent in 1952. Beginning with 1953, the AMS has used weights of 48 percent for delivered milk and 52 percent for store milk.

Annual prices for 1922–34 were derived by reducing the BLS prices for delivered milk by a constant percentage, determined from the ratio of the weighted average of store and delivered prices to delivered prices alone. The store prices had a weight of only 30 percent in 1935, so the adjusted BLS delivered price was less than 2 percent higher than the weighted average price.

BLS prices for delivered milk before January 1953 were reduced by 2.1 percent to adjust prices in the 56 large cities (in the BLS sample before 1953) to a level comparable with the 46-city prices now available. (See p. 67.)

The BLS average retail prices of milk are based on price quotations mainly for single-quart purchases, as purchases of 1 quart at a time generally are the most common. The BLS does not collect prices of milk in gallon containers. In some areas when the consumer buys 2 or more quarts at a time, the price per quart is lower than the single-quart price. Retail prices in this series are for that reason somewhat higher than average prices of all milk bought by consumers and the farm-retail spreads are somewhat wider.

Farm Value

To calculate the farm value of a quart of milk, the estimated average price per 100 pounds farmers receive for Class I milk is divided by 100 and the resulting figure is multiplied by 2.18, the farm product equivalent. It is estimated that farmers sell 2.18 pounds of Class I milk for every quart sold to consumers. The average weight of the milk in a quart container is estimated to be 2.15. The difference between these two quantities is wasted during marketing.

Prices Received by Farmers.—The farm value is now computed from a weighted average of prices received by farmers for Class I milk distributed in 44 cities, 28 of which are among the 46 cities in which BLS collects retail prices. Data are not available for the other 18 BLS cities. Because of this, data for 16 substitute cities are used in calculating the weighted average price received by farmers. These 16 markets were chosen as substitutes for the 18 BLS cities mainly because they are located relatively near those cities. Prices received by farmers for milk distributed in the 44 cities are averaged by using the same city weights as BLS uses in calculating weighted averages of retail prices in its 46 cities. The weights of the 18 BLS cities for which no farm-price data are available are assigned the 16 substitute cities. The 28 BLS cities for which farm prices of milk are available account for about 70 percent of the total city weights. In 1956 the weighted average price of milk in the 44 cities was less than 1 percent higher than that for the 28 cities in the BLS group for which farm price data are available. Most of the 18 BLS cities for which data are not available had less than 30,000 population in 1950.

Data relating to prices received by farmers for Class I milk distributed in 42 cities are taken from the "Fluid Milk and Cream Report," published monthly by AMS. Data for the other 2 of the 44 cities are taken from the "Dairy Information Bulletin," issued monthly by the California Federal-State Crop and Livestock Reporting Service. The "Fluid Milk and Cream Report" gives the price per 100 pounds paid by dealers in each market for milk of basic butterfat test, f.o.b. city, the adjustment in price for deviations from the basic butterfat content, and the approximate fat test of milk sold to consumers. The f.o.b. price in each city is adjusted to the level appropriate for the butterfat content typical of milk sold to consumers in that city. An estimate of average charges for hauling milk from country points to the city is deducted from the adjusted f.o.b. price. The city prices thus adjusted are weighted to obtain the average price from which the farm value is calculated.

Farm values for the years before 1946 were calculated from prices derived from a series of prices paid by dealers for 3.5 percent milk for city distribution. The Department of Agriculture has collected these prices for many years. The ratio method was used to adjust these prices to a level comparable with prices for 1946 and later years.

BUTTER

The farm-retail spread for butter is derived from the BLS average price per pound of butter and the weighted average of the farm values for butter made from farm-separated cream and for that made with cream from whole milk that creameries bought from farmers. Retail prices for 1952 and earlier years were reduced by 0.6 percent to make them comparable with BLS prices after 1952. (See p. 67.)

Farm Value

It is estimated that 74 percent of the production of creamery butter in 1947 was made from farm-separated cream. By 1955 this proportion had declined to about 50 percent. Farm values for 1919–29, however, were based entirely on prices farmers received for butterfat in farm-separated cream, as practically the total production of creamery butter in that period was made from farm-separated cream.

Farm-Product Equivalents.—It is estimated that for every pound of butter sold in retail stores, creameries buy from farmers 0.808 pound of butterfat in farm-separated cream or

0.825 pound of butterfat in whole milk. Federal law and the laws of most States require that butter contain at least 80 percent butterfat. Most butter contains slightly more than that percentage, as creameries allow a margin for error. These farm-product equivalents allow for waste, some of which occurs in separating cream from whole milk bought from farmers. For that reason, the farm-product equivalent is larger for butter made from creamery-separated cream than for that made from farm-separated cream.

Butter Made from Farm-Separated Cream.—AMS publishes in "Agricultural Prices" the midmonth prices received by farmers for butterfat in farm-separated cream. The farm value of butter made from farm-separated cream is equal to the average price per pound times 0.808, the farm-product equivalent. The byproducts which creameries obtain in churning butter generally have little value, so no adjustment is made for them.

Butter Made from Creamery-Separated Cream.—The AMS publishes in its monthly report, "Milk Prices Paid at Creameries and Cheese Factories," the price per 100 pounds that farmers receive for milk bought by creameries and its average butterfat content. These data are available for 1947 and later years. The price per 100 pounds is divided by the average butterfat content to obtain the return to farmers for that quantity of milk containing 1 pound of butterfat.

The gross farm value of butter made from creamery-separated cream is calculated by multiplying the average return farmers receive for whole milk containing 1 pound of butterfat by 0.825, the farm-product equivalent. But only a negligible proportion of the nonfat solids in the milk goes into the butter, and these nonfat solids account for part of the value of the milk. To calculate the net farm value of butter, we must estimate what proportion of the gross farm value arises from the butterfat in the milk.

The first step in estimating this proportion is to derive the value of the fat and nonfat solids from the finished products into which they are made. It is estimated that an average of 1.8 pounds of nonfat dry milk can be made from the nonfat solids in the quantity of milk needed for 1 pound of butter (milk containing 0.825 pound of butterfat). The "net" values of 1.8 pounds of nonfat dry milk and 1 pound of butter are estimated by subtracting from the wholesale values of these products estimated "plant-to-wholesale" costs. The percentage that the net value of the butter is of the total net value of the products (butter and nonfat dry milk) is the proportion of the gross farm value attributed to butter. The gross farm value is multiplied by this proportion to obtain the net farm value of butter.

The wholesale prices from which the "net" values are derived are the Chicago wholesale price of 92-score butter and the average price received by manufacturers for nonfat dry milk. The AMS publishes both these prices regularly. The "plant-to-wholesale" costs deducted from the wholesale price of butter include costs of manufacturing butter and shipping to Chicago from creameries in the North Central States and selling costs. Those deducted from the manufacturer's price of nonfat dry milk include processing and selling costs.

In computing previous price-spread series published for butter, the portion of the gross farm value attributed to the fat content of the milk was estimated by comparing the wholesale values of the products. As costs of processing are higher for nonfat dry milk than for butter, comparison of wholesale values resulted in a smaller proportion of the gross farm value being attributed to butter than when "net" values of these products are compared.

The estimate that 1.8 pounds of nonfat dry milk are made from the quantity of milk containing 0.825 pound of butterfat is for milk having a fat content of 3.85 percent. This percentage varies seasonally, so the quantity of nonfat dry milk varies slightly. However, this variation is not large enough to cause a significant error in the proportion of the gross value attributed to the butterfat content of the milk. A butterfat content of 3.85 percent is used because that is the average for milk bought by creameries in recent years.

As noted earlier, estimates of the farm value for the years 1919–29 are based entirely on prices farmers received for butterfat in farm-separated cream. Farm values of butter made from creamery-separated cream for the years 1930–46 are based on estimates of the value of the butterfat in milk, derived from prices farmers in Minnesota and Wisconsin received for butterfat in farm-separated cream. Much of the cream sold in these two states is sweet cream, which brings higher prices than the sour cream generally sold by farmers in most States. The prices received closely approximated the value attributed to the fat in milk bought by creameries during 1947–55.

AMERICAN PROCESS CHEESE

The AMS has published farm-retail spreads for American process cheese, beginning with May 1949. The production of this type of cheese exceeds that of any other type although it still accounts for less than half of total cheese production in the United States.

Retail Prices.—The BLS has collected prices of American process cheese since May 1949. BLS prices collected in 56 cities before January 1953, were reduced by 1.3 percent to make them comparable with prices collected in 46 cities beginning in January 1953. Monthly prices for 1952–55 were adjusted so that they gradually reflect the effect of the change the BLS made in weights it uses in averaging prices obtained from chain and independent retail food stores. These adjustments removed the abrupt decline in the price between January and February 1956 that the unadjusted published prices show. (See p. 67 for further description of these price adjustments.)

Farm Value.—The farm value of American process cheese is calculated from data relating to the average price received by farmers and the butterfat content of milk for American cheese, published by AMS in its monthly report "Milk Prices Paid at Creameries and American Cheese Factories." The average price per 100 pounds is divided by the butterfat content of the milk. The resulting figure is the farmer's return for the quantity of milk containing 1 pound of fat. It is estimated that the quantity of milk containing 0.36 pound of fat is equivalent to 1 pound of American process cheese. Consequently, to calculate the gross farm value, the farmer's return from milk containing 1 pound of fat is multiplied by 0.36. The gross farm value is then adjusted for the value attributed to the byproduct.

In manufacturing American process cheese, two or more natural American cheeses are melted and an emulsifying agent added. The moisture content of the cheese may be increased slightly in this process. The quantity of butterfat equivalent to 1 pound of process cheese may be a little less than for 1 pound of natural cheese. Data regarding yields obtained in cheese factories and formulas used to calculate yields indicate that 1 pound of natural American cheese generally requires a quantity of milk containing slightly more fat than 0.36 pound. The quantity of milk containing 0.36 pound of fat varies, of course, with the fat content of the milk. But this quantity would be large enough, even when the fat content of milk is at its seasonal peak, to supply the nonfat solids required.

Approximately 7 percent of the fat in milk used to make American cheese remains in the whey and can be recovered by separating. Thus, a byproduct of about 0.025 pound of butterfat is recovered from the whey. The price per pound that farmers receive for butterfat in farm-separated cream is multiplied by 0.025 to calculate the value of the byproduct. This value is subtracted from the gross farm value.

EVAPORATED MILK

Farm-retail spreads are computed for a 14½-ounce can of evaporated milk, which the BLS has priced at retail for many years. No adjustment has been made in BLS retail prices.

Farm Value.—The farm value of evaporated milk is calculated from average prices received by farmers for milk used mainly for evaporating. These prices and the average butterfat content of the milk are published in the "Evaporated, Condensed, and Dry Milk Report," a monthly publication of the AMS.

The average price per 100 pounds of milk is divided by the average butterfat content. To calculate the gross farm value, the quotient (which is the average return to farmers for the quantity of milk that contains 1 pound of butterfat) is multiplied by 0.0774 pound, the farm-product equivalent of a 14½-ounce can of evaporated milk.

The farm-product equivalent is for evaporated milk containing 7.95 percent fat and 18.0 percent nonfat solids. These percentages are slightly larger than the minima established by the Federal Food and Drug Administration. The farm-product equivalent also makes allowance for a 2-percent waste of milk in processing. A little less than 0.0774 pound of fat is required, even when allowance is made for waste, but this product equivalent is used in order to provide the necessary nonfat solids. The nonfat solids content of milk containing 0.0774 pound of fat was calculated for milk testing 4.04 percent fat. During 1948–52, the fat content of milk used for evaporating averaged 4.04 percent. The excess butterfat, 0.0038 pound, is a byproduct. It is valued by the price received by farmers for butterfat in cream. This value is subtracted from the gross farm value.

The price and butterfat test series used in computing the farm value are not available for the years before 1947. Estimates of the farm value for earlier years are based on average prices farmers received for milk of 3.5 percent butterfat delivered to condenseries.

ICE CREAM

The BLS has published retail prices of ice cream since December 1950. Prices are collected for vanilla or chocolate flavored bulk ice cream, prepackaged in pint containers. The BLS prices before January 1, 1953, were reduced by 3.8 percent to make them comparable with prices collected since that date. (See p. 67.)

Farm Value.—The farm-product equivalent is for ice cream having a fat content of 11.6 percent. This fat content was calculated from data given in "Milk Production on Farms and Statistics of Dairy Plant Products," an annual publication of the AMS. The nonfat content is taken to be 10 percent and the weight of ice cream 4.7 pounds per gallon. Thus, the fat in 1 pint of ice cream, assuming a 3-percent loss in separating and freezing, is estimated at

0.0703 pound.[15] And the nonfat solids content, assuming a 3-percent waste, is estimated at 0.0606 pound.[16]

To calculate the farm value of a pint of ice cream, the value of 1 pound of fat is multiplied by 0.0703 and the value of 1 pound of nonfat milk solids is multiplied by 0.0606. The farm value is the sum of the two products.

Prices that farmers receive for milk bought specifically for use in ice cream are not available. The estimated price of milk used in ice cream is 1.065 times the price of milk used in butter. This relationship was determined by comparing the average of prices paid for the class of milk used for ice cream in 35 Federal order markets and the United States average price of milk for butter. Both class prices and the average price of milk for butter were on a per pound butterfat basis.

The proportion of the value of this milk that is attributed to its fat content is the same as the percentage of the gross farm value of fat that is attributed to butter (p. 83). The difference between this percentage and 100 is the percentage of the value attributed to the nonfat solids in milk. The value of 1 pound of butterfat is calculated by multiplying the average return that farmers receive for milk containing 1 pound of fat by the percentage of the value attributed to fat. The difference between the value of the fat, calculated in this way, and the value of the whole milk is the value of the nonfat solids. This value is divided by 2.236 to obtain the value of 1 pound of nonfat milk solids. The figure, 2.236, is the number of pounds of nonfat solids in the quantity of milk containing 1 pound of fat solids, provided the butterfat content of the milk tests 3.85 percent. This has been the average test for milk used in making butter in recent years.

PRODUCT GROUP

The retail cost and farm value of the dairy products group are calculated from retail prices and farm values for fluid milk, butter, American process cheese, evaporated milk, and ice cream.

The quantity of each dairy product to be included in the market basket was determined from estimates made by the BLS of expenditures of urban families for dairy products in 1952. Quantities were derived from the BLS estimates by dividing the number of dollars spent for each dairy product by the retail price of the product.

Retail prices are not available for several dairy products. These products are represented in the dairy products group by the products most closely related to them for which retail prices are available. Thus, fluid milk represents fluid cream, buttermilk, and chocolate milk; American process cheese represents cottage cheese and other cheese products; and evaporated milk represents condensed milk and dried milk. Expenditures for products that are not priced were added to expenditures for the products representing them before the quantities were calculated by dividing expenditures by retail prices. These quantities are used to calculate the total retail cost and farm value of the dairy products in the market basket. The retail price of a product and its farm value are multiplied by the same quantity. The quantity weights and relative importance of each product in the retail cost of the market basket are given in table 43, page 73.

Retail prices for ice cream were not available before December 1950, but the retail costs and farm values of the dairy products group before that date have been adjusted so that they are comparable with those after that date. These adjustments were made by increasing the quantities of each of the other products so that total retail cost and farm value without ice cream in December 1950 were equal to those obtained with ice cream.

Retail prices and farm values of American process cheese were used in calculating the retail cost and farm value of the dairy products group, although BLS retail prices were not available for this product before May 1949. The retail prices used were derived from prices of natural American cheese, for which the BLS collected prices before May 1949.

Annual index numbers of the retail cost, farm value, and farm-retail spread of the dairy products group (table 55) were calculated for 1947–56 from data given in table 54. Index numbers for the earlier years were calculated from data for a group having different quantities. Series for both periods were linked at 1947. Fluid milk accounts for a considerably larger proportion of the retail cost and farm value of the new product group than of the old and butter accounts for less.

POULTRY AND EGGS

Annual price-spreads series are published for eggs beginning with 1919 and quarterly data beginning with 1947 (table 63, p. 114). Annual data are published for frying chickens, beginning with 1949 and quarterly data from the second quarter of that year (table 62, p. 113). Annual and quarterly data beginning with 1947 for the poultry and eggs group are given in table 61, p. 112.

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[15] $\frac{4.7 \text{ pounds x } 11.6 \text{ percent}}{.97 \text{ x } 8} = 0.0703$ pound

[16] $\frac{4.7 \text{ pounds x } 10 \text{ percent}}{.97 \text{ x } 8} = 0.0606$ pound

FRYING CHICKENS

Retail prices used in calculating farm-retail spreads are for ready-to-cook fryers. The BLS collects prices of ready-to-cook frying chickens or New York dressed chickens, depending on the type predominating in a city. More and more chickens are sold ready-to-cook. The BLS now (July 1957) publishes prices of ready-to-cook chickens in 44 cities; in January 1953 the number was 34. But this series is not used in calculating farm-retail spreads because (1) it does not relate to all the 46 cities for which the BLS collects prices and (2) the number of cities to which it relates has varied. The 44 cities in which ready-to-cook prices are now collected exclusively do not include New York-Northern New Jersey, and Philadelphia. BLS may soon publish average prices of ready-to-cook chickens in all 46 cities. When such averages are published, they will be used in calculating the farm-retail spread.

The AMS derives the monthly retail prices used in computing farm-retail spreads from an estimate of the average retail price of ready-to-cook frying chickens in all 46 cities in January 1953 and the BLS index of retail prices of chickens. The average retail price for any month is estimated by making the change in the January 1953 price indicated by the change in the index between that month and January 1953, the first month for which the BLS published prices for its present group of 46 cities. This index measures the average change in prices of both ready-to-cook and New York dressed fryers.

The January 1953 average price of ready-to-cook frying chickens was estimated from average retail prices published by the BLS for (1) ready-to-cook fryers sold in 34 cities and (2) New York dressed fryers in 12 cities. The average for New York dressed chickens was multiplied by 1.274 to convert it to a ready-to-cook basis. This multiplier is the quantity of live chicken equivalent to 1 pound of ready-to-cook chicken divided by the quantity equivalent to 1 pound of New York dressed chicken (1.37 pounds ÷ 1.075 pounds). This derived average and the average for ready-to-cook chickens were combined to obtain the estimated average price of ready-to-cook frying chickens in all 46 cities. The weights used in combining these two averages were derived from estimates made by the BLS of expenditures for poultry in the two groups of cities.

The farm value of frying chickens is derived from the average price received by farmers for commercial broilers, estimated by the AMS.[17] This price per pound is multiplied by 1.37 pounds, the farm-product equivalent. This farm-product equivalent is based on an estimated ready-to-cook yield of 73 percent from live broilers or fryers.

EGGS

The BLS publishes average retail prices for large Grade A eggs. These prices, however, cannot be compared with the prices published by the AMS, which are intended to approximate weighted average prices of all grades and sizes of eggs sold by farmers. These AMS prices should be compared only with weighted average retail prices of all grades and sizes of eggs sold to consumers.[18] To calculate farm-retail spreads for eggs, the AMS has to estimate average prices of all eggs to be sold to consumers. This is done by applying monthly adjustment factors to the BLS prices of large Grade A eggs.

Retail prices collected by the BLS before January 1953 were not specifically for large Grade A eggs, so a different set of monthly factors had to be used to adjust BLS prices before that date. In this earlier period, BLS agents asked storekeepers the price of the highest grade of eggs sold in volume and of the size within that grade sold in largest volume. It is probable that most of the quotations obtained were for large Grade A eggs, except possibly during the late summer and early fall. Before these adjustment factors were applied, all prices before 1953 were reduced 2 percent to make them comparable with prices collected later (p. 67).

Factors for adjusting the BLS prices were estimated from prices for large, small, and medium Grade A eggs in New York City, reported by the New York City Bureau of Markets during 1948–52, wholesale market prices, and data relating to the distribution of eggs with regard to grade and size during each month of the year. Data with respect to grades and sizes were for sales by a producer's cooperative marketing organization in Ohio during 1948–52. The estimated monthly adjustment factors are:

Month	*For prices, 1946–52*	*For prices, beginning Jan. 1953*
January	0.95	0.97
February	.98	.98
March	.99	.98
April	.99	.97
May	.99	.97
June	.98	.96
July	.97	.96
August	.95	.94
September	.95	.94
October	.95	.94
November	.95	.95
December	.95	.95

Annual average retail prices for the years before 1946 were derived by projecting back-ward the 1946 price by means of the BLS index of the retail price of eggs.

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[17] Chickens which are generally called fryers, frying chickens, or broilers in retail stores are usually called broilers by farmers and poultry buyers.

[18] Such prices, however, would not be strictly comparable with the prices received by farmers, as the latter are intended to include prices of eggs for hatching and prices of inferior grades of eggs that are not sold in shell form to consumers.

The farm value of a dozen eggs is the price per dozen received by farmers multiplied by 1.03. The farm-product equivalent, 1.03, allows for loss of some eggs through breakage and deterioration in quality. The price received by farmers is published by the AMS.

PRODUCT GROUP

The retail cost and farm value of a fixed quantity of poultry products are estimated from the retail price and farm value of frying chickens. This is done by multiplying both the retail price and farm value by a constant factor, which was derived by dividing the family expenditures for poultry, estimated by the BLS, by the retail price of frying chickens. The same method was used to derive a factor for eggs.

The BLS did not publish prices for frying chickens before April 1949. But the retail cost and farm value of poultry products were estimated for use in obtaining totals for the poultry and eggs group and for the market basket. The retail cost was projected back through 1947 by means of the BLS index of retail prices of chickens. Index numbers for that period were based on retail prices for roasting chickens rather than frying chickens. For that reason, the farm values were calculated from prices for all chickens, both farm chickens and commercial broilers.

BAKERY AND CEREAL PRODUCTS

Annual price-spread series are published for white pan bread, soda crackers, white flour, corn flakes, corn meal, and rolled oats for the period 1919–56 for all except crackers, which are for 1953–56 (tables 66-71, pp. 117-9). Data for the bakery and cereal products group in the market basket are published on a quarterly basis beginning in 1947 in table 64, p. 115. Index numbers for the group, annual 1919–56, are given in table 65, p. 116. Retail prices and estimated farm values for vanilla cookies, biscuit mix, and rice are included in the group, but individual price spreads are not published for these items.

Weights.—Retail prices and farm value of 9 items are weighted together to obtain the estimated retail cost and farm value for this group of products. Because of the importance of bread in this group, this one item usually accounts for 45 percent or more of the retail cost of the entire group (table 43, p. 73). The weights used for the period 1947 to date are based on BLS estimated expenditures of urban families for bakery and cereal products in 1952. Expenditure for items not priced, which amounted to about 45 percent of the total, were allocated to priced items. The grouping of products by priced items was as follows:

Items included	*Priced items*
Bread and rolls, white, whole wheat, rye, etc	White pan bread
All crackers	Soda crackers
Cookies and cake	Vanilla cookies
Doughnuts, pies, pastry, and other bakery products	Average of above priced items
White and cake flour, macaroni and spaghetti	White flour
Prepared flour mixes	Biscuit mix
Corn flakes	Corn flakes
Cornmeal, grits, etc.	Cornmeal
Rice	Rice
Rolled oats and other uncooked cereals	Rolled oats
Baby food cereals and other cereals	Flour, corn flakes, and rice

Biscuit mix and crackers were not priced before 1953 so the trend in the cost of biscuit mix was based on the price of flour and the trend in the cost of crackers on the weighted average price of bread and cookies.

Ingredients Other Than Grain.—The farm value of ingredients other than grain used in bakery products and flour mixes is estimated for this group. This value is at best a rough estimate. Quantities of sugar, shortening, eggs, and milk per unit of product were estimated and weighted by product quantity weights obtained from the BLS survey data. The ingredients were then valued at the farm level, with an additional allowance made for fruit used in pies and other pastries. To conform with methods of estimating market-basket values, the trend in farm value of other ingredients is carried by the trend in the farm value of the ingredients in priced items. Basing the farm value on sugar, milk, lard, vegetable shortening, and eggs does not allow for variation in prices of fruit relative to prices of other ingredients. Assumptions were necessary as to the division of fats between lard and vegetable shortening. Lard was assumed to be used in bread, vegetable shortening in cakes and cookies, and both in other products. Some margarine and butter are used in the baking industry but no allocation to these products was made. Also, the milk was estimated in terms of nonfat dry solids, although some bakeries probably use liquid milk and cream. Eggs used are assumed to be dried eggs produced in the surplus producing areas, mostly during the first half of the year. Farm values were computed from prices received by farmers in the West North Central region in the first 6 months of the year, using a lagging procedure. Using the United States average monthly price received by farmers for eggs would give too high a value to eggs, especially in some months.

FARM VALUE

Except for bread, farm values shown in the individual item tables are for grain only, although small quantities of other ingredients are used in some products. The estimated yields, farm equivalents per retail unit, and farm price series used are discussed by products.

Bread.—The farm value per pound of white pan bread is based on an ingredient formula with the following proportions of products of farm origin: Flour, 100 pounds; lard, 3.5 pounds; nonfat dry milk solids, 3.6 pounds; and sugar, 7.5 pounds. These ingredients, with 2.5 pounds of yeast, 2.0 pounds of salt, 0.75 pound of yeast food and 0.2 pound of mold inhibitor are estimated to yield 156 pounds of bread.[19] Therefore, the equivalent of 1 pound of bread is 0.64 pound of flour, or 0.0149 bushel of wheat. (See discussion of flour for wheat equivalent.) The quantities of lard, milk solids, and sugar were reduced to a pound-of-bread basis and used to weight farm values of these products estimated in the calculations of other product groups.

The average price received by farmers for all wheat is used in estimating the value of wheat in bread. Although this price includes prices of types and grades of wheat unsuitable for bread, it was used because prices received by farmers for wheat made into bread-type flour are not available. However, as a check, prices received by farmers in seven States in the hard winter and hard spring wheat-producing areas were averaged, after making allowance for prices of durum wheat in two States. These averages differed from the United States average by no more than 3 cents per bushel in most months of 5 years tested. In a few months the difference was 4 to 7 cents per bushel. The difference was so small that it had little effect, usually not as much as 0.1 cent, on the farm value per pound of bread. Substantial premiums sometimes are paid for high-protein wheat used for bread-type flour but no data are available on the effect of these premiums on prices in the 7 State area. The farm value of grain in a pound of bread, however, amounts to such a small portion of the retail price of bread that farm prices can vary considerably without affecting the price of the finished product.

Crackers.—A pound of crackers on the average requires a pound of flour. Therefore, the grain equivalent of crackers is the same as the grain equivalent of flour, 1.4 pounds of wheat.

Flour.—A bushel of wheat yields 42.9 pounds of flour (71.5 percent extraction) and about 17.1 pounds of millfeed. Expressed in another way, 2.33 bushels of wheat are required for 100 pounds of flour; and from the 2.33 bushels of wheat, 39.8 pounds of millfeed are obtained. The farm equivalent of 5 pounds of flour, the unit priced at retail, is about 7 pounds (0.1165 bushel of wheat). This 0.1165 bushel of wheat is valued at the average price received by farmers to obtain the gross farm value of 5 pounds of flour.

As byproduct feeds obtained in milling are joint products with the flour, part of the gross farm value is attributed to them. The percentage that the wholesale value of flour is of the total wholesale value of flour and byproduct feeds is multiplied by the gross farm value of 0.1165 bushel of wheat to obtain the net farm value in table 70. Wholesale prices of flour and feed in three important milling centers—Minneapolis, Kansas City, and Buffalo—are weighted by 5-year averages of flour production in these cities and nearby areas to estimate the wholesale values from which the percentages attributed to flour are computed.[20] Two kinds of flour are used—standard patent and short patent. The weight for a particular market is divided equally between the two kinds of flour. Weighted average prices of bran and middlings (or shorts) represent the price of millfeed byproducts, with the weight divided equally between bran and middlings. Wholesale prices for the day nearest the 15th of the month are obtained from the weekly magazine "Northwestern Miller."

Corn Flakes.—On the average, about 31 pounds of grits for corn flakes are made from a bushel of corn. The joint products obtained in milling corn for corn flakes are estimated to be 2 pounds of corn flour, 0.5 pound of crude corn oil, 20 pounds of hominy feed. The loss is 2.5 pounds.[21] One hundred pounds of corn flakes requires 116.1 pounds of grits for which, according to the above estimated yields, 3.75 bushels of corn are needed. Therefore, the corn equivalent of a 12-ounce package of corn flakes is 1.57 pounds (0.0281 bushel). The quantities of grits and joint products are valued monthly at wholesale prices and the value of grits is divided by the total value of all products to give the percentage of value attributed to corn grits. This percentage applied to the price of corn gives the farm value of grits per bushel of corn which, multiplied by the farm equivalent of corn flakes, gives the net farm value in table 68. Instead of using the average price received by farmers for all corn, which is mostly yellow corn, an average price of white corn is estimated by applying to the farm price of all corn a ratio computed from wholesale prices of white corn and yellow corn.

Cornmeal.—Average yields from a bushel of corn used for cornmeal are 41.7 pounds of meal, 0.3 pound of crude oil, and 11.0 pounds of hominy feed, with a 3-pound loss. The products are valued at wholesale prices and the percentage attributed to meal is computed. This percentage applied to the price of corn is the imputed farm value of the meal content of a bushel of corn which, multiplied by the farm equivalent of 1.34 pounds (0.0239 bushel), is the net farm value in table 69. The prices used for corn flakes are also used for cornmeal. Meal is made of both white and yellow corn, but the estimated series of prices for white corn is believed to be more representative of prices of corn for meal than is the average price received by farmers for all grades of corn.

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[19] This bread formula was based on data reported by major baking companies in a survey made by the Senate Agricultural Committee in 1956. Some adjustments were made in the averages of these data in line with a bread formula recommended by the American Institute of Baking.

[20] Before 1947 prices in 6 markets and constant weights were used.

[21] The yields for cornmeal and corn flakes are those estimted from information received from industry officials and published in "Price Spreads Between Farmers and Consumers for Food Products," (*36*).

Rolled Oats.—Estimates of the farm equivalent of rolled oats and the portion of the farm price which is attributed to them are based on the following yields from a bushel of oats: 15.6 pounds of rolled oats, 5.2 pounds of stub oats (small low-grade oats), and 10.2 pounds of oat millfeed, with a 1-pound loss.[22] The percentage of the gross farm value of oats attributed to the rolled oats is computed from wholesale prices in the same way as for other grain products. This percentage applied to the price received by farmers for oats gives the estimated farm value of rolled oats derived from a bushel of grain. A 20-ounce package of rolled oats requires 2.56 pounds (0.0801 bushel) of oats. Therefore, the farm value imputed to rolled oats multiplied by 0.0801 gives the net farm value per retail unit (table 71).

RETAIL PRICES

Retail prices are those published by the Bureau of Labor Statistics. When the unit changed during the period for which price spreads are shown, the prices for the earlier periods were adjusted to the level of prices for the unit now priced. The size of the retail unit for which BLS reported prices of corn flakes has changed several times. Before February 1946 the unit was 8 ounces; from February 1946 to November 1950, 11 ounces; December 1950 to April 1952, 13 ounces; and from May 1952 to the present time, 12 ounces. In 1946 the unit for flour changed from 10 pounds to 5 pounds and the unit for rolled oats from 1 pound to a 20-ounce package.

Level adjustments were also made for corn flakes and cornmeal when the BLS began pricing in 46 cities instead of 56 cities. Prices of corn flakes before 1953 were adjusted downward 3 percent and prices of cornmeal were raised by 19 percent.

The difference in prices, which made these adjustments necessary, resulted chiefly from changes in methods of computation used by the BLS. Prices now are based only on prices of cornmeal sold in 1-pound packages. In earlier periods, some of the prices were for packages of larger sizes, which tended to lower prices per pound. One-pound packages cannot be priced in some cities; therefore, differences in prices reflect geographical area differences also. Before 1953, BLS prices for corn flakes were based on more than one size package. Now only 12-ounce packages are priced in as many of the 46 cities as possible. Another type of adjustment in prices of flour and bread was made to take account of BLS revisions in store weights between chains and independents in January, 1956.[23]

FRUITS AND VEGETABLES

The fruit and vegetable group is composed of two major subgroups—fresh fruits and vegetables and processed fruits and vegetables. Retail cost and farm value for the group are computed by adding the totals for the two subgroups.

Price-spread series for the group, the fresh fruit and vegetable subgroup, and the fresh vegetable subgroup are given quarterly, beginning in 1947 (table 72, 74, 79, pp. 120-5). Data for processed fruits and vegetables are published annually, beginning in 1953 (table 89, p. 130). Index numbers for the group, annual 1919–56, are given in table 73, p. 121.

FRESH FRUITS AND VEGETABLES

The retail cost of the fresh fruit and vegetable group represents the cost of average quantities of all domestic fruits and vegetables, including melons, bought by the average wage-earner and clerical-worker family in 1952. Bananas are excluded because they are imported, but it was not possible to correct for small quantities of other imported fruits and vegetables, of which tomatoes probably are the most important.

Retail prices and farm values of 17 items are weighted together to obtain the retail cost and farm value for fresh fruits and vegetables. (See table 44 for list of items.) The weights used for the period beginning with 1947 are based on the BLS estimated expenditures of urban families for fresh fruits and vegetables in 1952. Expenditures for items not priced, which amounted to about 20 percent of the total, were allocated to priced items. Several of the items, especially fresh fruits, were not priced before 1953. For periods when these items were not priced, the weight was allocated to the remaining items in the subgroup (fresh fruit or fresh vegetable).[24] Retail cost and farm value were computed separately for the fresh fruits and fresh vegetables subgroups. Thus, before 1953, the values for fresh fruits are based on a relatively small number of items with a large proportion of the weight of other items allocated to the priced items. Therefore, data for fresh fruits probably are less reliable for the period 1947–52 than the data for fresh vegetables.

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[22] Estimated from information received from industry officials and published in "Price Spreads Between Farmers and Consumers for Food Products" (*36*).

[23] See pp. 66-7 for a general discussion of adjustments in retail price series.

Price-spread data are published for the following items: Apples, grapefruit, lemons, oranges, green beans, cabbage, carrots, celery, lettuce, onions, potatoes, sweetpotatoes, and tomatoes (tables 75–88, pp. 123–30). The data for all these items except lemons and celery are published each year for which BLS retail prices are available.

TABLE 44.—*Fresh fruits and vegetables: Retail pricing unit and farm product equivalents used in market basket*

Product	Retail unit	Farm product equivalent	
		In retail unit	In farm unit [1]
Fresh fruits:			
Apples	Pound	1.08	0.0224 bu.
Grapefruit	Each	1.04	.0141 box
Grapes (Thompson seedless)	Pound	1.05	.0375 lug
Lemons	do	1.04	.0132 box
Oranges	Dozen	1.04	.0665 box
Peaches	Pound	1.09	.0226 bu.
Strawberries	Pint	1.09	.815 lb.
Watermelons	Pound	1.11	.0111 cwt.
Fresh vegetables:			
Beans, green	do	1.09	.0109 cwt.
Cabbage	do	1.10	.011 cwt.
Carrots	do	1.06	.0106 cwt.
Celery, pascal	do	1.11	.0111 cwt.
Lettuce	Head	1.11	.0141 cwt.
Onions	Pound	1.06	.0106 cwt.
Potatoes	10 pounds	10.42	.1042 cwt.
Sweetpotatoes	Pound	1.12	.0112 cwt.
Tomatoes	do	1.18	.0118 cwt.

[1] Unit in which the prices received by farmers are reported.

Retail Prices

BLS prices are used, supplemented by other price series for some items. Since 1953, BLS has collected prices for grapes (Thompson seedless), peaches, strawberries, and watermelons in the most active 3 or 4 months of the marketing season. Grapefruit is priced from November to May. Retail prices of these seasonal items are used to estimate the total retail cost of fresh fruits, but farm-retail spreads for these individual items (except grapefruit) are not published. In calculating the retail cost of fresh fruits, the value of the item not priced is carried by the trend in the value of all priced items until that item is again priced. The farm value of these items is calculated in a similar manner.

Price Adjustments. — Prices of apples, potatoes, and sweetpotatoes before 1953 were adjusted to make previous 56-city average prices more comparable with the current prices. The retail price of oranges was adjusted downward in 1955 to take account of BLS revisions in store weights between chains and independents. (See p. 67.) In January 1955, BLS began pricing potatoes in 10-pound units instead of 15-pound units. Prices before 1955 were adjusted to a 10-pound basis by multiplying by the ratio of the 10-pound price to the 15-pound price in December 1954. Prices of carrots are now in a pound unit instead of a bunch, but no adjustment in price was made for this change.

Farm Values

Farm values per retail unit are computed by multiplying the farm product equivalent by the price received by farmers.

Farm Equivalents.—Farm equivalents expressed in terms of retail units for fresh fruits and vegetables are shown in table 44 and in footnotes to the tables for individual fresh fruits and vegetables. Farm equivalent quantities per retail unit are those quantities estimated to be sold by farmers for one unit of product to be sold at retail. These equivalent quantities make allowance for some waste and shrinkage between time of farm sale and time of purchase by consumers at the retail store. Data are not available for estimating accurately the shrinkage on a national average basis. Percentages used were derived with the help of commodity specialists but are considered rough estimates.

Prices Received by Farmers.—For most products, prices estimated by AMS are averages of prices received by farmers wherever the commodity is sold, and may be at different points in the marketing system. For example, in one area the price may be a shipping-point price and in another area the price may be for the product sold at the farm. The amount of marketing services included in the farm price may vary within the same area and between areas of production. For some items, like potatoes, the price received may include storage costs.

Prices received for truck crops (watermelons and all vegetables except potatoes and sweetpotatoes) are reported for the first half of the month in the current issue of "Agricultural Prices." Prices for the full month are given in the next month's issue. The half-month prices are used to compute farm values because they are most comparable with midmonth retail prices. Equivalent returns per box, packinghouse door, are used to compute farm values for the fresh citrus fruits—oranges, lemons, and grapefruit. An average price for

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[24] The weights in the market basket and the relative importance of these items are given in table 43, p. 73.

grapes is estimated from the simple average of f.o.b. prices in California for Thompson seedless grapes for the first 2 full weeks of each month. The farm values for the remaining fruits and vegetables are computed from midmonth prices received by farmers.

PROCESSED FRUITS AND VEGETABLES

The retail cost of the processed fruit and vegetable group represents the cost of the average quantities of all processed fruits and vegetables bought by the average urban family in 1952. Farm values represent equivalent quantities of produce valued at prices received by farmers. This group includes canned, frozen, and dried fruits and vegetables. Baked beans, catsup, chili, pickles, and relishes are included with canned vegetables although in the BLS index these products are classed with "other foods at home." Expenditures for imported items, such as canned pineapple, were excluded.

Retail prices and farm values of 15 items are weighted together to obtain the retail cost and farm value for processed fruits and vegetables. The 15 items shown in table 45 were weighted together to estimate totals for the processed fruit and vegetable subgroup, beginning with 1953. The weights make allowance for value of fruits and vegetables not priced.[25] Only 6 of the 15 items were priced for the entire period 1947–52; therefore, additional weight was added to priced items to maintain the 1953 level of values for the group. To avoid having so much of the value carried by prices of a few canned products, some of the weight for the canned products and the weight for frozen fruits and vegetables (before 1950) were carried by the trend in the fresh vegetable subgroup. As so few commodities were included in the processed fruit and vegetable subgroup before 1953, tables for this subgroup do not include years before 1953. Weighting both the farm value and retail price by the same quantity weights assumes that the farmer received the same percentage of retail cost of the items not priced as for the priced items that carry the additional weight.

Price-spread data are published for the following items: Frozen orange juice concentrate, strawberries, green beans, and peas; canned peaches, orange juice, corn, peas, tomatoes, and beans with pork; dried prunes and navy beans (tables 90–101, pp.130-4). Data are published for the years for which BLS retail prices are available for each of these items.

Retail Prices

Retail prices of individual items of processed fruits and vegetables are those collected by the BLS. No level adjustments were necessary when the city sample was changed in 1953.

Over a period of years the predominant can size or package size for certain processed fruits and vegetables has changed. (The procedure for adjusting retail prices when the container size is changed is discussed more fully on p. 66.) The size of the retail unit for the following commodities changed since 1947: Canned fruit cocktail, corn, peas, and tomatoes; and

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[25] The weights in the market basket and the relative importance of these items are given in table 43, p. 73.

TABLE 45.—*Processed fruits and vegetables: Retail pricing unit, farm product equivalents, and lagging period used for estimating farm values*

Retail product	Retail unit	Farm product	Farm product equivalent	Lagging period [1]
			Pounds	
Canned:				
Peaches	No. 2½ can	California cling peaches for canning	1.89	July–Sept.
Fruit cocktail	No. 303 can	California peaches, grapes, pears, and cherries	[2] 1.01	Varies by fruit.
Orange juice	46-oz. can	Florida oranges for canning	5.88	Nov.–Jan.
Corn, cream style	No. 303 can	Corn for processing	2.49	July–Sept.
Peas	do	Peas for canning	.69	June–Aug.
Tomatoes	do	Tomatoes for processing	1.84	Aug.–Oct.
Tomato catsup	14 oz.	Tomatoes for processing	2.32	Aug.–Oct.
Beans with pork	16-oz. can	Michigan dry beans	.35	—
Sweet gherkins [3]	7½ oz.	Cucumbers for pickles	.98	Aug.–Oct.
Frozen:				
Strawberries	10-oz. pkg.	Strawberries for processing	.51	June–Aug.
Orange juice	6-oz. can	Florida oranges for frozen concentrate	3.05	Jan.–Mar.
Peas	10-oz. pkg.	Peas for freezing	.70	July–Sept.
Beans, green	do	Beans for processing	.79	July–Sept.
Dried:				
Prunes	Pound	Dried prunes	.97	Oct.–Dec.
Beans	do	Michigan dry beans	1.00	—

[1] Weights of 75–25, 50–50, and 25–75 are used with prices of previous season and current season.

[2] 90 percent of farm equivalent weight to allow for pineapple which is imported.

[3] Retail price of 7½ oz. jar of sweet gherkins estimated to be the same as average retail price of 1 pound of all cucumber pickles; farm equivalent, therefore, is the quantity estimated for 1 pound of pickles.

frozen strawberries and peas. In each instance, the new retail unit was smaller. Table 45 shows the retail units currently used for each of the processed fruits and vegetables.

The retail prices of canned orange juice and pickles were adjusted downward in 1955 to take account of BLS revisions in store weights between chains and independents in January 1956. (See p. 67 for a detailed discussion of these revisions.)

Farm Values

The farm value is the farm price multiplied by the farm product equivalent quantity. No allowance is made for byproducts of fruit and vegetable processing, although rinds and peelings have some value, particularly citrus rinds. Farm product equivalents per retail unit for most of the processed fruits and vegetables were computed from data published in "Conversion Factors and Weights and Measures for Agricultural Commodities and Their Products" (May 1952), published by the United States Department of Agriculture. The equivalents for canned and frozen orange juice are 3-year averages (1950–51 to 1952–53 seasons) computed from data of the Florida Canners Association. Farm equivalents for all processed fruits and vegetables for which price spreads are computed are shown in table 45.

With the exception of prices of oranges and dried beans, prices for computing farm values of processed fruits and vegetables are seasonal average prices published by AMS. Monthly prices are not available. A transition period of 3 months is used to go from the price of one season to that of the next. The 3-month period in which processing is normally the heaviest is used, with weights of 75 and 25, 50 and 50, and 25 and 75 for the prices of the preceding and current seasons, respectively. The 3-month lagging periods are shown in table 45. For other months, average prices for the preceding season are compared with current retail prices. The calendar year average price used in calculating the farm value, therefore, is a weighted average of prices of crops of the preceding and current years. These weights are given, by products, in table 46.

Farm value computations for most canned vegetables, sweet gherkins, frozen strawberries and frozen green beans make use of prices of truck crops for processing (which includes both canning and freezing). Two price series are available for peas—one for peas for canning and the other series for peas for freezing. Prices of California cling peaches for canning are used for price spreads for canned peaches. Prices of California peaches, pears, grapes, and cherries are weighted together to estimate a price series for fruit cocktail. No distinction could be made in the price of tomatoes for canning and for other tomato products such as catsup, because prices are not available by utilization.

TABLE 46.—*Weights given to average seasonal prices for current crop year and preceding crop year in calculating calendar year averages for farm values of processed fruits and vegetables*

Product	Current year	Preceding year
Canned:		
Peaches	0.375	0.625
Fruit cocktail:		
Pears	.375	.625
Grapes	.292	.708
Cherries	.542	.458
Orange juice	.875	.125
Corn	.375	.625
Peas	.458	.542
Tomatoes	.292	.708
Pickles, sweet (cucumbers)	.292	.708
Frozen:		
Strawberries	.458	.542
Peas	.375	.625
Beans	.375	.625
Orange juice	.125	.875
Prunes, dried	.125	.875

Prices for oranges for canning and for oranges for frozen juice are reported weekly during the processing season by the Florida Canners' Association. These were used instead of the prices of oranges for all processing reported monthly by AMS. For the 3-month lagging period, the season average price of the previous season and the season-to-date prices of the current season are weighted. For months after the lagging period, the season-to-date, or cumulative price of the week nearest the 15th of the month is used. When the processing season is over, the season average price is continued until the beginning of the next season. This procedure prevents sharp changes in farm value from the end of one season to the beginning of the next.

The farm values of dried beans and canned beans with pork are calculated from the price received by farmers in Michigan for dry edible beans. The production of beans in Michigan is estimated to average about 95 percent pea beans (navy beans).

Subsidy Payments to Processors

Government payments to processors were made during the price-control period of World War II. The last season for which payments were made was for the 1945 crop, but the method of lagging farm values makes these payments show up in the price spreads for some items for 1946. Payments on peaches were discontinued before 1945. The farm-retail spreads in the table for canned peaches in 1944 and 1945 do not include payments by the Federal Government to processors, which averaged less than 1/10 cent per can in those years. Farm-retail spreads plus Government payments to processors for individual processed fruits and vegetables are shown in the footnotes of the commodity tables.

FATS AND OILS

Price-spread series for the fats and oils group of the market basket, based on data for vegetable shortening, margarine, salad dressing, peanut butter, and lard, are published on a quarterly basis in table 102 (p. 135) beginning in 1947. Annual data are published for vegetable shortening, 1919–56; salad dressing, 1940–56; margarine, 1951–56; and peanut butter, 1953–56 (tables 103-106, pp. 135-6).

FARM VALUE

Vegetable Oil Products.—Farm values of margarine, vegetable shortening, and salad dressing are computed from estimated farm values of cottonseed and soybean oils, although small proportions of other oils usually are used in these products. The farm values of the oils are values attributed to oil as one of two or more joint products. For example, oil is only one of several mill products processed from the cottonseed which the farmer sells.

The farm value per pound of cottonseed oil is computed by assuming that the value of oil bears the same relation to the value of cottonseed at the farm as the mill value of oil bears to the total mill-product value. Percentages of value attributed to oil are computed monthly, using seasonal average yields of the mill products and monthly market price quotations. The percentage attributed to oil multiplied by the monthly price per ton received by farmers gives the estimated farm value of the oil from a ton of cottonseed. The value per pound is obtained by dividing by the number of pounds of oil from a ton of seed. In recent years the percentage attributed to oil averaged about 50 percent. This percentage fluctuates sharply in some months, depending on the relative price changes of cottonseed oil and cottonseed meal.

Similar methods are used to estimate the farm value attributed to soybean oil. The percentage of the total value of soybean products attributed to oil varies around 50 percent. The yield of oil—pounds of oil from a ton of cottonseed or bushel of soybeans—is changed periodically to agree with current estimates of yields. In general, these yields have tended to increase during the last decade.

As a check on the method of estimating farm value of oil by imputing part of the value of cottonseed and soybeans to oil, the farm values were related to the average value of crude oil at crushing mills.[26] The coefficient of correlation was 98 percent for months of 1947 through the first half of 1955. The difference between the mill value of crude oil and the estimated farm value average about 10 percent of the total farm-retail spread for vegetable shortening during the months of 1952–55.

The proportions of cottonseed oil and soybean oil used to compute farm values of the products are changed periodically to reflect the changing relative importance of the two oils, as shown by data of the Bureau of the Census. Soybean oil has increased relative to cottonseed oil over a period of years in the production of both margarine and vegetable shortening. In recent years the ratio of soybean oil to cottonseed oil has averaged about 2 to 1; in the prewar period (1935–38 average) the ratio of cottonseed oil to soybean oil was approximately 5 to 1. Before 1935 the oil used was assumed to be 100 percent cottonseed oil. One pound of refined vegetable oil is required for a pound of vegetable shortening, and about 0.8 pound of refined oil and approximately 0.2 pound of skim milk are required for a pound of margarine.

The farm value of salad dressing (table 105) is calculated by valuing fixed quantities of cottonseed oil, soybean oil, sugar, and eggs, using farm values per unit estimated for price spreads for other items. Oil accounts for only 40 percent of the weight of the salad dressing, so that changes in the proportions of cottonseed oil and soybean oil do not affect the farm value as much as for shortening and margarine.

Peanut Butter.—The farm equivalent of 1 pound of peanut butter is estimated to be 1.77 pounds of farmer's stock peanuts. The 1.77 pounds are valued at average prices received by farmers for all peanuts sold because prices are not available by utilization.

Lard.—Part of the farm price of hogs is attributed to lard on the basis of wholesale relationships of pork and lard (fresh weight basis) in Chicago, from data of the Livestock Division of AMS. (See pp. 78-9 for further description of methods used in calculating price spreads for pork.) This series is used in calculating the total farm value of the fats and oils group.

RETAIL PRICES

Retail prices are those reported by the BLS, with adjustments to maintain the level of prices for the kind of product and unit currently priced. The retail unit for vegetable shortening was 1 pound before August 1955 and 3 pounds beginning with August 1955. The adjustment was made on the basis of prices for the different units in the same month. Price spreads for margarine are not shown for the years before 1951 because prices before August 1950 were for uncolored margarine; current prices are for colored margarine. For the period August 1950 through 1952, prices used are for colored margarine in 37 or more cities. Before August 1950, prices of uncolored margarine (after adjusting to the August 1950 price of colored margarine) were used in calculating the retail cost of the product group. Published retail prices of lard before 1953 were adjusted upward 5 percent because of the difference in 46–city and 56–city average prices in December 1952 (p. 67). Price spreads for lard are not shown but the retail prices are used in estimates for the fats and oils group.

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[26] The mill value of oil for a pound of shortening was obtained by applying market-basket quantities of oil to prices of crude cottonseed oil at Southeastern mills and prices of crude soybean oil at Midwestern mills.

PRODUCT GROUP

The retail cost and farm value for the group are based on retail prices and farm values of vegetable shortening, margarine, salad dressing, peanut butter, and lard. The retail cost of vegetable shortening and salad and cooking oils is carried by the price of hydrogenated vegetable shortening and the retail cost of salad dressing, mayonnaise, and related products is carried by the price of salad dressing. The same weights are used to weight both retail price and farm values for the five products. (See table 43, p. 73, for the relative importance of these products in the retail cost of the market basket.)

MISCELLANEOUS PRODUCTS

Retail cost and farm value for a group of miscellaneous products are included in the totals for the market basket. Historical data for the group are not published in this bulletin but quarterly data are published currently in "The Marketing and Transportation Situation." The retail cost of this group generally amounts to less than 5 percent of the total retail cost of the market basket. The farm value of this group is an even smaller proportion of the total farm value.

The miscellaneous products group includes sugar, sirups, candy, jams, jellies, and other sweets, and partially prepared foods such as soup, chow mein, and other products made from farm products that are in more than one commodity group.

Much of our sugar supply is obtained from outside the continental United States. Therefore, in calculating weights for this group, 27 percent of the expenditure for sugar (BLS estimated expenditures of urban families in 1952) was used to represent that produced in the United States. One-half of the expenditures for candy was used as an estimate of expenditure attributed to continental United States sugar and other domestic products. The retail cost and farm value series for sugar, corn sirup, and grape jelly (the items priced at retail) are weighted to estimate values for all sweets in the group.

The estimates of retail cost and farm value of partially prepared foods, obtained as explained under "farm value" are added to the estimates for sugar and other sweets to obtain estimates for miscellaneous products included in the totals for the market basket.

Annual price-spread data for corn syrup and sugar are published in tables 107 and 108, and currently in "The Marketing and Transportation Situation."

FARM VALUE

Sugar.—The farm value for sugar is calculated from the price of sugar beets because more than three-fourths of the sugar produced in the United States is beet sugar. The quantity of sugar beets equivalent to 5 pounds of refined beet sugar, the unit priced at retail, varies by season because of the variation in the sucrose content of the beets. On the average, about 7 pounds of beets are required for 1 pound of sugar. Seasonal equivalents are calculated from official data on sugar produced and beet production for processing.

Returns to producers of sugar beets for sugar are from two sources—payments received from processors and Sugar Act payments by the Federal Government. The farm values in table 108, page 137, are computed from average prices received from processors. The Sugar Act payments are shown as "Government producer payments." Prices paid by processors include support payments for the crops of 1943–45 and 1947.

Average prices received by farmers for sugar beets are available only by seasons; therefore, a lagging procedure was used to estimate monthly and calendar year average farm values. For the first 9 months of the year, the price of the preceding season was used. For October-December, preceding and current season prices are weighted together, using the following percentages as weights: October, 75–25; November, 50–50; and December 25–75. On a calendar year basis, this is the same as weighting the price of the previous season by 87.5 percent and the price of the current season by 12.5 percent.

The farm value in table 108, page 137, is the net farm value, after subtracting 5 percent of the gross farm value as the byproduct allowance. The percentage of the total value that is accounted for by byproducts varies somewhat by seasons, but annual data are not available for this estimate.

Corn Sirup.—Corn sirup is made from corn starch—a product of the corn wet-milling process industry. According to information furnished by representatives of the industry, the approximate average yields obtained per bushel of corn are: 35 pounds of corn starch, 1.6 pounds of crude corn oil, 12 pounds of gluten feed, 3 pounds of gluten meal, 0.8 pound of corn oil meal, and a shrinkage of 3.6 pounds. Thirty-five pounds of corn starch will yield 40 pounds of pure corn sirup.[27] From the above yields it was determined that 1.9 pounds of corn are required for a 24-ounce can of corn sirup, consisting of 90 percent pure corn sirup and 10 percent sirup from other ingredients. No adjustment was made in farm value for farm products other than corn.

The products other than corn starch obtained in milling are used as byproducts. The byproduct allowance is calculated in the same way as for other grain products; that is, by valuing all products at the wholesale level and computing the percentage that byproduct value is of the total value. This percentage is then applied to the gross farm value of 1.9 pounds of corn. The 1.9 pounds (0.034 bu.) of corn is valued at the average price received by farmers. The gross farm value less the byproduct allowance is the net farm value.

Grape Jelly.—The farm value of grape jelly is an estimate of the value of both grapes and sugar. The farm value of grapes is based on the average of seasonal prices of Concord grapes in Michigan, New York, and Pennsylvania; a lagging procedure similar to that for some other processed products is used. The monthly farm value of sugar is from table 108, page 137.

Partially Prepared Food.—Information is inadequate for estimating the farm value of miscellaneous products such as chow mein, vegetable soup, spaghetti with sauce, and chili con carne. Instead of omitting the value of these products, the retail cost and farm value of canned vegetables are used for trends. This method assumes the same farmer's share of retail cost for these products as for canned vegetables.

RETAIL PRICES

Retail prices are those published by the BLS, with prices of sugar adjusted to prices of a 5-pound unit when they were reported in 10-pound or 1-pound units. Sugar was priced before 1919, grape jelly beginning December 1950, and corn sirup, January 1935 to July 1947 and January 1953 to date. Sugar priced may be either cane sugar or beet sugar, although the prices of the two kinds in any particular store may differ slightly.

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[27] These yield factors are from "Price Spreads Between Farmers and Consumers for Food Products, 1913–44" (*36*)

Part III

TABLES ON PRICE SPREADS FOR FOOD PRODUCTS, PRODUCT GROUPS, AND MARKET BASKET

This chapter contains price spread statistics for a "market basket" of farm food products, commodity groups, and 47 individual food products on an annual basis for the total time period for which statistics are available. Monthly data beginning with 1947 are given for the total market basket. For product groups and some individual food products, quarterly data beginning with 1947 are given. Quarterly data beginning with 1947 (or later, depending on availability of statistics) are available on request from the Marketing Information Division, AMS.

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TABLE 47.—*The market basket of farm food products: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and month	Retail cost	Farm value	Farm-retail spread	Farmer's share	Year and month	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*		*Dollars*	*Dollars*	*Dollars*	*Percent*
1947					*1949*				
January	870	439	431	50	January	955	449	506	47
February	861	446	415	52	February	922	433	489	47
March	892	468	424	52	March	932	441	491	47
April	892	459	433	51	April	939	437	502	47
May	886	445	441	50	May	933	435	498	47
June	898	442	456	49	June	937	433	504	46
July	902	453	449	50	July	919	426	493	46
August	917	462	455	50	August	929	435	494	47
September	948	490	458	52	September	940	449	491	48
October	950	494	456	52	October	923	436	487	47
November	949	487	462	51	November	914	428	486	47
December	965	515	450	53	December	890	414	476	47
Average	911	467	444	51	Average	928	435	493	47
1948					*1950*				
January	978	522	456	53	January	876	406	470	46
February	951	479	472	50	February	871	409	462	47
March	942	478	464	51	March	879	411	468	47
April	962	489	473	51	April	883	414	469	47
May	982	489	493	50	May	901	422	479	47
June	1,001	510	491	51	June	919	421	498	46
July	1,007	523	484	52	July	942	441	501	47
August	1,009	521	488	52	August	944	449	495	48
September	1,012	519	493	51	September	950	454	496	48
October	998	490	508	49	October	948	442	506	47
November	978	475	503	49	November	947	449	498	47
December	960	468	492	49	December	978	471	507	48
Average	982	497	485	51	Average:	920	432	488	47

TABLE 47.—*The market basket of farm food products: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]—Continued

Year and month	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1951				
January	999	483	516	48
February	1,019	507	512	50
March	1,022	507	515	50
April	1,020	500	520	49
May	1,028	499	529	49
June	1,026	490	536	48
July	1,027	487	540	47
August	1,022	499	523	49
September	1,025	503	522	49
October	1,028	494	534	48
November	1,036	497	539	48
December	1,035	496	539	48
Average	1,024	497	527	49
1952				
January	1,032	486	546	47
February	1,013	475	538	47
March	1,012	475	537	47
April	1,023	473	550	46
May	1,026	474	552	46
June	1,035	475	560	46
July	1,056	492	564	47
August	1,052	499	553	47
September	1,045	492	553	47
October	1,045	487	558	47
November	1,042	484	558	46
December	1,028	468	560	46
Average	1,034	482	552	47
1953				
January	1,014	453	561	45
February	991	441	550	45
March	990	443	547	45
April	992	440	552	44
May	998	445	553	45
June	1,016	441	575	43
July	1,012	455	557	45
August	1,017	453	564	45
September	1,014	453	561	45
October	1,010	444	566	44
November	990	439	551	44
December	996	439	557	44
Average	1,003	445	558	44
1954				
January	1,007	444	563	44
February	998	437	561	44
March	988	431	557	44
April	987	434	553	44
May	990	429	561	43
June	987	414	573	42
July	993	419	574	42
August	989	423	566	43
September	983	414	569	42
October	977	401	576	41
November	968	408	560	42
December	961	401	560	42
Average	986	421	565	43
1955				
January	963	410	553	43
February	971	411	560	42
March	972	413	559	42
April	977	413	564	42
May	972	400	572	41
June	975	401	574	41
July	977	393	584	40
August	973	388	585	40
September	978	394	584	40
October	967	379	588	39
November	953	369	584	39
December	953	367	586	39
Average	969	395	574	41
1956				
January	947	369	578	39
February	942	365	577	39
March	942	373	569	40
April	951	381	570	40
May	964	395	569	41
June	991	405	586	41
July	1,005	407	598	40
August	988	403	585	41
September	988	402	586	41
October	987	398	589	40
November	981	390	591	40
December	979	389	590	40
Average	972	390	582	40
1957				
January	978	389	589	40
February	988	380	608	38
March	981	386	595	39
April	992	395	597	40
May	1,000	391	609	39
June	1,014	400	614	39
July	-------	-------	-------	-------
August	-------	-------	-------	-------
September	-------	-------	-------	-------
October	-------	-------	-------	-------
November	-------	-------	-------	-------
December	-------	-------	-------	-------
Average	-------	-------	-------	-------

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[1] For general description of sources of data and methods used in estimating market-basket data, see pp. 72-76.

TABLE 48.—*The market basket of farm food products: Indexes of retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1913–56* [1]

Year	Retail cost 1947–49 = 100	Farm value 1947–49 = 100	Farm-retail spread 1947–49 = 100 (2)	Farmer's share
				Percent
1913	40	37	43	46
1914	41	37	45	45
1915	40	35	45	44
1916	48	43	53	45
1917	66	62	71	47
1918	69	69	68	51
1919	77	74	80	48
1920	85	73	97	43
1921	64	51	77	40
1922	61	48	74	40
1923	62	49	75	40
1924	61	49	73	40
1925	67	56	77	42
1926	67	56	79	42
1927	65	53	77	41
1928	66	55	76	42
1929	66	55	76	42
1930	64	49	78	39
1931	51	36	66	35
1932	43	27	59	32
1933	42	27	56	32
1934	47	32	59	34
1935	52	40	61	39
1936	53	42	63	40
1937	55	45	64	42
1938	50	38	61	39
1939	48	37	59	38
1940	48	38	58	40
1941	53	46	59	44
1942	62	58	65	48
1943	69	71	69	51
1944	68	70	70	52
1945	69	74	70	53
1946	79	83	78	52
1947	97	100	94	51
1948	104	107	102	51
1949	99	93	104	47
1950	98	93	103	47
1951	109	107	111	49
1952	110	103	116	47
1953	107	96	118	44
1954	105	90	119	43
1955	103	85	121	41
1956	103	84	123	40
1957	----------	----------	----------	--------

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[1] Data for 1947 and later years are for farm food products representative of those bought by urban families in 1952. For the years before 1947, the series were weighted by quantities of food products bought per family in 1935–39 (pp. 72–76). Index numbers were computed by "linking" the two series at 1947. The dollar figures for the group, which are published quarterly in "The Marketing and Transportation Situation," can be converted to index numbers by the following 1947–49 average: Retail cost, $940.13; farm value, $465.15; farm-retail spread, $474.98.

[2] The farm-retail spread was adjusted to exclude processing taxes in 1933–35 and to include Government payments to processors in 1943–46.

TABLE 49.—*Meat products: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	242.80	166.98	75.82	69
1948	274.80	184.36	90.44	67
1949	250.64	161.36	89.28	64
1950	263.97	172.84	91.13	65
1951	298.83	200.59	98.24	67
1952	289.92	181.14	108.78	62
1953	262.74	156.47	106.27	60
1954	261.14	154.96	106.18	59
1955	241.00	129.00	112.00	54
1956	233.49	121.76	111.73	52
1957	------	------	------	------
1947				
January–March	224.98	157.59	67.39	70
April–June	230.33	158.95	71.38	69
July–September	254.04	173.93	80.11	68
October–December	261.84	177.43	84.41	68
1948				
January–March	253.57	173.44	80.13	68
April–June	272.40	177.73	94.67	65
July–September	296.16	206.72	89.44	70
October–December	277.09	179.56	97.53	65
1949				
January–March	245.36	157.01	88.35	64
April–June	251.57	158.87	92.70	63
July–September	256.13	167.60	88.53	65
October–December	249.50	161.98	87.52	65
1950				
January–March	240.23	155.98	84.25	65
April–June	256.39	168.72	87.67	66
July–September	281.86	186.51	95.35	66
October–December	277.41	180.15	97.26	65
1951				
January–March	297.06	202.85	94.21	68
April–June	299.80	204.52	95.28	68
July–September	299.80	204.06	95.74	68
October–December	298.66	190.94	107.72	64
1952				
January–March	290.86	182.51	108.35	63
April–June	289.48	184.48	105.00	64
July–September	294.04	186.66	107.38	63
October–December	285.29	170.91	114.38	60
1953				
January–March	258.25	149.05	109.20	58
April–June	260.63	154.74	105.89	59
July–September	270.83	167.67	103.16	62
October–December	261.26	154.44	106.82	59
1954				
January–March	268.82	163.40	105.42	61
April–June	266.62	161.62	105.00	61
July–September	257.13	148.46	108.67	58
October–December	251.98	146.37	105.61	58
1955				
January–March	246.45	141.42	105.03	57
April–June	240.33	134.83	105.50	56
July–September	244.18	129.12	115.06	53
October–December	233.04	110.64	122.40	47
1956				
January–March	218.85	103.17	115.68	47
April–June	226.84	119.82	107.02	53
July–September	242.99	136.29	106.70	56
October–December	245.27	127.78	117.49	52
1957				
January–March	244.44	123.87	120.57	51
April–June	254.98	136.08	118.90	53
July–September	------	------	------	------
October–December	------	------	------	------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for the meat products group is described in greater detail on pp. 76–81.

TABLE 50.—*Meat products: Indexes of retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1919–56* [1]

Year	Retail cost 1947–49 = 100	Farm value 1947–49 = 100	Farm-retail spread 1947–49 = 100 (2)	Farmer's share
				Percent
1919	58	57	61	65
1920	58	49	77	56
1921	49	32	83	44
1922	47	34	73	48
1923	47	32	75	46
1924	47	34	74	48
1925	53	43	72	55
1926	55	43	78	53
1927	55	42	80	51
1928	57	45	82	52
1929	59	46	86	52
1930	55	40	86	48
1931	46	28	81	41
1932	35	20	65	38
1933	30	17	57	38
1934	36	21	59	39
1935	48	37	63	51
1936	47	35	70	50
1937	50	42	67	55
1938	45	33	69	49
1939	44	32	68	49
1940	42	32	62	51
1941	47	41	60	58
1942	54	54	55	66
1943	56	58	58	69
1944	53	57	56	72
1945	53	59	57	75
1946	67	72	67	72
1947	95	98	89	69
1948	107	108	106	67
1949	98	94	105	64
1950	103	101	107	65
1951	117	117	115	67
1952	113	106	128	62
1953	103	92	125	60
1954	102	91	125	59
1955	94	76	132	54
1956	91	71	131	52
1957	----------	----------	----------	--------

[1] Data for 1947 and later years are for meat products representative of those bought by urban families in 1952 (adjusted as described on p. 80. For the years before 1947, the series were weighted by quantities of meat products bought per family in 1935–39. Index numbers were computed by "linking" the two series at 1947. The dollar figures for the group, which are published quarterly in "The Marketing and Transportation Situation," can be converted to index numbers by dividing by the following 1947–49 averages: Retail cost, $256.08; farm value, $170.90; farm-retail spread, $85.18.

[2] The farm-retail spread was adjusted to exclude processing taxes in 1933–35 and to include Government payments to processors in 1943–46.

TABLE 51.—*Beef, Choice grade: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57* [1]

Year and quarter	Retail price per pound (2)	Gross farm value (3)	By-product allowance (4)	Net farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1919	33.8	28.9	6.1	22.8	11.0	67
1920	34.1	25.0	4.8	20.2	13.9	59
1921	29.3	16.2	2.2	14.0	15.3	48
1922	27.7	16.4	2.8	13.6	14.1	49
1923	28.8	17.8	2.7	15.1	13.7	52
1924	29.5	19.0	2.9	16.1	13.4	55
1925	30.7	21.1	3.4	17.7	13.0	58
1926	31.4	19.2	3.0	16.2	15.2	52
1927	32.8	22.1	3.7	18.4	14.4	56
1928	37.4	26.4	4.6	21.8	15.6	58
1929	39.2	25.1	3.6	21.5	17.7	55
1930	36.2	21.8	3.3	18.5	17.7	51
1931	30.0	16.0	2.2	13.8	16.2	46
1932	24.9	12.6	1.6	11.0	13.9	44
1933	21.5	10.3	1.9	8.4	13.1	39
1934	23.3	12.8	2.1	10.7	12.6	46
1935	30.5	20.2	3.0	17.2	13.3	56
1936	28.6	17.3	3.0	14.3	14.3	50
1937	32.5	22.8	3.5	19.3	13.2	59
1938	28.7	17.2	2.5	14.7	14.0	51
1939	29.5	18.3	2.6	15.7	13.8	53
1940	29.5	19.6	2.7	16.9	12.6	57
1941	31.5	21.9	3.3	18.6	12.9	59
1942	35.0	26.9	3.9	23.0	12.0	66
1943 [5]	36.2	30.0	4.3	25.7	10.5	71
1944 [5]	34.2	30.7	4.4	26.3	7.9	77
1945 [5]	33.5	30.9	4.5	26.4	7.1	79
1946 [5]	42.5	38.2	5.1	33.1	9.4	78
1947	61.8	50.5	6.3	44.2	17.6	72
1948	75.3	59.6	6.6	53.0	22.3	70
1949	68.4	53.6	5.4	48.2	20.2	70
1950	75.4	60.4	6.3	54.1	21.3	72
1951	88.2	73.9	8.1	65.8	22.4	75
1952	86.6	68.0	5.5	62.5	24.1	72
1953	69.1	48.0	4.2	43.8	25.3	63
1954	68.5	48.2	4.0	44.2	24.3	65
1955	67.5	45.9	3.7	42.2	25.3	63
1956	66.0	43.7	3.7	40.0	26.0	61
1957	------	------	-----	------	------	-----
1947						
January–March	55.0	46.4	6.3	40.1	14.9	73
April–June	58.0	48.0	5.9	42.1	15.9	73
July–September	67.3	52.7	5.7	47.0	20.3	70
October–December	67.0	54.9	7.2	47.7	19.3	71
1948						
January–March	67.0	55.1	6.6	48.5	18.5	72
April–June	75.1	60.5	6.7	53.8	21.3	72
July–September	83.1	65.1	6.9	58.2	24.9	70
October–December	76.1	57.7	6.2	51.5	24.6	68
1949						
January–March	64.8	48.6	5.6	43.0	21.8	66
April–June	67.5	51.7	5.4	46.3	21.2	69
July–September	70.6	55.6	5.5	50.1	20.5	71
October–December	70.8	58.7	5.4	53.3	17.5	75
1950						
January–March	68.2	54.6	5.1	49.5	18.7	73
April–June	73.7	59.3	5.7	53.6	20.1	73
July–September	79.9	62.6	6.9	55.7	24.2	70
October–December	79.6	65.2	7.5	57.7	21.9	72
1951						
January–March	87.0	73.5	8.7	64.8	22.2	74
April–June	88.3	74.2	8.4	65.8	22.5	75
July–September	88.6	74.3	8.1	66.2	22.4	75
October–December	88.8	73.5	7.3	66.2	22.6	75
1952						
January–March	88.1	70.5	5.9	64.6	23.5	73
April–June	87.3	68.5	5.5	63.0	24.3	72
July–September	86.2	67.4	5.5	61.9	24.3	72
October–December	84.7	65.6	5.0	60.6	24.1	72
1953						
January–March	71.1	48.9	4.3	44.6	26.5	63
April–June	66.6	43.6	4.1	39.5	27.1	59
July–September	69.3	50.3	4.3	46.0	23.3	66
October–December	69.3	49.2	4.2	45.0	24.3	65
1954						
January–March	68.2	46.7	4.0	42.7	25.5	63
April–June	68.1	47.4	4.3	43.1	25.0	63
July–September	68.1	47.5	4.0	43.5	24.6	64
October–December	69.6	51.1	3.8	47.3	22.3	68
1955						
January–March	69.6	51.0	3.7	47.3	22.3	68
April–June	67.7	45.9	3.6	42.3	25.4	62
July–September	67.0	44.7	3.7	41.0	26.0	61
October–December	65.8	41.9	3.6	38.3	27.5	58
1956						
January–March	62.1	38.0	3.3	34.7	27.4	56
April–June	62.6	40.5	3.7	36.8	25.8	59
July–September	68.5	49.5	4.0	45.5	23.0	66
October–December	70.8	46.9	3.7	43.2	27.6	61
1957						
January–March	66.4	40.9	3.5	37.4	29.0	56
April–June	69.7	45.5	4.0	41.5	28.2	60
July–September	------	------	-----	------	------	-----
October–December	------	------	-----	------	------	-----

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for beef is described in greater detail on pp. 77–78.

[2] Estimated average price of Choice grade cuts.

[3] Payment to farmer for 2.16 pounds of Choice grade beef cattle (Good grade before 1951). Estimated premiums for Choice grade over average price of all beef cattle vary by months.

[4] Portion of gross farm value attributed to edible and inedible byproducts.

[5] Data with farm value and farm-retail spread adjusted to include Government payments to farmers in 1945–46 and to processors in 1943–46 are:

Year	Retail price	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1943	36.2	30.0	4.3	25.7	11.7	71
1944	34.2	30.7	4.4	26.3	10.6	77
1945	33.5	31.7	4.6	27.1	11.9	81
1946	42.5	38.8	5.2	33.6	12.6	79

TABLE 52.—*Lamb, Choice grade: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57* [1]

Year and quarter	Retail price per pound (2)	Gross farm value (3)	By-product allowance (4)	Net farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1919	36.1	31.2	7.9	23.3	12.8	65
1920	39.2	28.7	5.9	22.8	16.4	58
1921	33.1	17.2	2.9	14.3	18.8	43
1922	36.2	23.5	4.2	19.3	16.9	53
1923	36.3	25.0	5.2	19.8	16.5	55
1924	36.7	25.9	5.9	20.0	16.7	54
1925	38.2	29.4	6.4	23.0	15.2	60
1926	38.7	27.8	5.4	22.4	16.3	58
1927	38.8	27.3	5.1	22.2	16.6	57
1928	39.3	29.0	5.8	23.2	16.1	59
1929	40.2	28.3	5.1	23.2	17.0	58
1930	34.4	19.6	3.5	16.1	18.3	47
1931	28.5	14.0	2.4	11.6	16.9	41
1932	22.0	10.8	1.8	9.0	13.0	41
1933	19.9	11.8	2.7	9.1	10.8	46
1934	23.7	14.4	3.2	11.2	12.5	47
1935	26.3	17.0	3.5	13.5	12.8	51
1936	27.5	19.3	4.4	14.9	12.6	54
1937	28.8	20.8	4.9	15.9	12.9	55
1938	26.8	16.8	3.3	13.5	13.3	50
1939	26.8	18.4	4.0	14.4	12.4	54
1940	26.5	19.2	4.5	14.7	11.8	55
1941	28.2	22.4	5.5	16.9	11.3	60
1942	32.9	27.3	6.3	21.0	11.9	64
1943 [5]	36.4	31.0	7.0	24.0	12.4	66
1944 [5]	35.6	30.1	6.8	23.3	12.3	65
1945 [5]	35.7	31.2	7.1	24.1	11.6	68
1946 [5]	44.0	36.5	6.9	29.6	14.4	67
1947	58.0	48.4	7.4	41.0	17.0	71
1948	65.2	53.7	7.6	46.1	19.1	71
1949	68.4	53.8	8.2	45.6	22.8	67
1950	70.6	58.8	10.5	48.3	22.3	68
1951	78.5	73.9	16.2	57.7	20.8	74
1952	76.4	58.5	9.0	49.5	26.9	65
1953	65.2	46.6	8.1	38.5	26.7	59
1954	66.5	45.8	7.9	37.9	28.6	57
1955	64.4	43.8	7.4	36.4	28.0	57
1956	64.7	44.0	7.4	36.6	28.1	57
1957	-----	-----	-----	-----	-----	-----
1947						
January–March	54.6	47.4	8.7	38.7	15.9	71
April–June	57.1	47.6	6.7	40.9	16.2	72
July–September	62.3	49.2	6.3	42.9	19.4	69
October–December	57.8	49.4	7.7	41.7	16.1	72
1948						
January–March	58.2	50.7	8.8	41.9	16.3	72
April–June	67.6	54.5	6.3	48.2	19.4	71
July–September	71.4	57.7	7.2	50.5	20.9	71
October–December	63.6	52.0	8.3	43.7	19.9	69
1949						
January–March	61.5	54.2	9.7	44.5	17.0	72
April–June	77.3	59.3	8.4	50.9	26.4	66
July–September	70.6	51.0	6.4	44.6	26.0	63
October–December	64.4	50.6	8.0	42.6	21.8	66
1950						
January–March	65.0	55.2	10.1	45.1	19.9	69
April–June	72.4	57.8	9.0	48.8	23.6	67
July–September	72.7	58.7	9.2	49.5	23.2	68
October–December	72.4	63.7	13.9	49.8	22.6	69
1951						
January–March	75.2	79.3	25.1	54.2	21.0	72
April–June	78.5	77.4	18.1	59.3	19.2	76
July–September	79.0	69.8	10.5	59.3	19.7	75
October–December	81.5	69.2	11.1	58.1	23.4	71
1952						
January–March	77.4	64.8	12.0	52.8	24.6	68
April–June	77.2	61.5	8.9	52.6	24.6	68
July–September	79.6	58.4	7.1	51.3	28.3	64
October–December	71.4	49.4	8.2	41.2	30.2	58
1953						
January–March	63.0	49.3	10.2	39.1	23.9	62
April–June	68.5	50.8	8.5	42.3	26.2	62
July–September	66.9	46.0	6.4	39.6	27.3	59
October–December	62.4	40.4	7.4	33.0	29.4	53
1954						
January–March	63.6	47.5	9.6	37.9	25.7	60
April–June	70.6	50.8	8.4	42.4	28.2	60
July–September	67.6	43.2	6.4	36.8	30.8	54
October–December	64.1	41.8	7.2	34.6	29.5	54
1955						
January–March	64.2	46.5	9.5	37.0	27.2	58
April–June	65.6	45.4	7.4	38.0	27.6	58
July–September	67.0	42.6	5.8	36.8	30.2	55
October–December	60.7	40.5	6.7	33.8	26.9	56
1956						
January–March	58.6	42.5	8.9	33.6	25.0	57
April–June	68.5	47.5	7.3	40.2	28.3	59
July–September	68.8	44.2	5.8	38.4	30.4	56
October–December	63.0	41.8	7.5	34.3	28.7	54
1957						
January–March	62.2	45.1	9.7	35.4	26.8	57
April–June	70.0	48.2	8.3	39.9	30.1	57
July–September	-----	-----	-----	-----	-----	-----
October–December	-----	-----	-----	-----	-----	-----

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for lamb is described in greater detail on pp. 79-80.

[2] Estimated average price of Choice grade cuts.

[3] Payment to farmer for an average equivalent quantity of 2.37 pounds of lamb. Equivalent varies by months.

[4] Farm value imputed to pelt and to edible byproducts.

[5] Data with farm value and farm-retail spread adjusted to include Government payments to producers in 1945–46 and to processors in 1943–45 are:

Year	Retail price	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1943	36.4	31.0	7.0	24.0	13.4	66
1944	35.6	30.1	6.8	23.3	14.0	65
1945	35.7	33.0	7.5	25.5	12.6	71
1946	44.0	39.4	7.4	32.0	14.4	73

TABLE 53.—*Pork: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57* [1]

Year and quarter	Retail price per pound (2)	Gross farm value (3)	By-product allowance (4)	Net farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1919	40.9	36.7	9.4	27.3	13.6	67
1920	39.6	28.7	6.1	22.6	17.0	57
1921	31.6	16.8	2.8	14.0	17.6	44
1922	30.0	18.6	3.2	15.4	14.6	51
1923	28.3	15.3	3.2	12.1	16.2	43
1924	28.4	16.3	3.5	12.8	15.6	45
1925	34.8	24.4	5.1	19.3	15.5	55
1926	37.3	26.0	4.6	21.4	15.9	57
1927	34.9	21.1	3.8	17.3	17.6	50
1928	32.9	19.4	3.6	15.8	17.1	48
1929	33.7	21.0	3.9	17.1	16.6	51
1930	32.4	19.5	3.5	16.0	16.4	49
1931	26.6	12.7	2.1	10.6	16.0	40
1932	17.6	7.5	1.2	6.3	11.3	36
1933 [5]	15.6	7.7	1.4	6.3	9.3	40
1934 [5]	21.0	9.3	1.8	7.5	13.5	36
1935 [5]	30.2	19.2	4.0	15.2	15.0	50
1936	29.8	20.5	4.2	16.3	13.5	55
1937	30.6	21.4	4.0	17.4	13.2	57
1938	27.3	17.1	2.9	14.2	13.1	52
1939	24.7	13.8	2.2	11.6	13.1	47
1940	21.6	11.9	1.8	10.1	11.5	47
1941	27.2	20.1	3.6	16.5	10.7	61
1942	32.9	28.8	5.4	23.4	9.5	71
1943	33.9	30.3	6.0	24.3	[6] 9.6	72
1944	31.9	28.8	6.0	22.8	[6] 9.1	71
1945	32.1	30.9	6.9	24.0	[6] 8.1	75
1946	41.3	38.0	9.1	28.9	[6] 12.4	70
1947	60.7	53.0	10.2	42.8	17.9	71
1948	61.7	51.0	9.3	41.7	20.0	68
1949	55.8	40.6	5.9	34.7	21.1	62
1950	55.1	40.2	6.2	34.0	21.1	62
1951	59.2	44.2	7.9	36.3	22.9	61
1952	57.5	39.6	5.5	34.1	23.4	59
1953	63.5	47.5	6.5	41.0	22.5	65
1954	64.8	48.4	7.4	41.0	23.8	63
1955	54.8	33.9	4.7	29.2	25.6	53
1956	52.1	31.6	4.5	27.1	25.0	52
1957	-----	-----	-----	-----	-----	-----
1947						
January–March	57.1	52.1	11.6	40.5	16.6	71
April–June	57.5	49.4	9.5	39.9	17.6	69
July–September	64.0	55.6	8.8	46.8	17.2	73
October–December	64.2	54.8	11.0	43.8	20.4	68
1948						
January–March	59.0	50.0	10.0	40.0	19.0	68
April–June	60.0	45.5	8.5	37.0	23.0	62
July–September	66.7	60.0	10.0	50.0	16.7	75
October–December	60.9	48.5	8.6	39.9	21.0	66
1949						
January–March	55.5	42.3	6.2	36.1	19.4	65
April–June	56.5	40.6	5.8	34.8	21.7	62
July–September	58.9	44.9	6.2	38.7	20.2	66
October–December	52.4	34.5	5.0	29.5	22.9	56
1950						
January–March	49.8	34.3	4.9	29.4	20.4	59
April–June	53.3	38.4	5.6	32.8	20.5	62
July–September	61.3	48.8	7.6	41.2	20.1	67
October–December	55.9	39.3	6.7	32.6	23.3	58
1951						
January–March	58.9	45.4	8.4	37.0	21.9	63
April–June	59.1	45.0	8.2	36.8	22.3	62
July–September	60.4	46.1	8.0	38.1	22.3	63
October–December	58.2	40.4	7.0	33.4	24.8	57
1952						
January–March	55.0	36.7	5.8	30.9	24.1	56
April–June	56.0	40.1	5.8	34.3	21.7	61
July–September	61.3	44.7	5.8	38.9	22.4	63
October–December	57.6	36.9	4.7	32.2	25.4	56
1953						
January–March	57.3	41.3	5.1	36.2	21.1	63
April–June	64.2	49.1	6.1	43.0	21.2	67
July–September	69.5	53.2	7.3	45.9	23.6	66
October–December	63.1	46.5	7.4	39.1	24.0	62
1954						
January–March	68.0	53.8	8.3	45.5	22.5	67
April–June	68.8	54.5	8.4	46.1	22.7	67
July–September	64.1	46.3	6.8	39.5	24.6	62
October–December	58.5	38.8	5.8	33.0	25.5	56
1955						
January–March	55.4	34.9	4.9	30.0	25.4	54
April–June	55.5	38.2	5.2	33.0	22.5	59
July–September	57.2	35.7	4.7	31.0	26.2	54
October–December	51.3	26.9	4.0	22.9	28.4	45
1956						
January–March	47.4	25.5	3.7	21.8	25.6	46
April–June	51.8	33.5	4.7	28.8	23.0	56
July–September	55.2	34.5	4.7	29.8	25.4	54
October–December	54.0	33.0	5.0	28.0	26.0	52
1957						
January–March	56.8	36.1	5.6	30.5	26.3	54
April–June	59.4	38.9	5.7	33.2	26.2	56
July–September	-----	-----	-----	-----	-----	-----
October–December	-----	-----	-----	-----	-----	-----

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[1] For general description of sources of data and methods used in deriving price-spread data, see pp. 65-76. Methodology used in estimating price spreads for pork is described in greater detail on pp. 78-79.

[2] Estimated average composite price of pork sold as retail cuts (ham, bacon, loin, picnic, butt, spareribs, bacon square).

[3] Payment to farmer for 2.13 pounds of live hog.

[4] Portion of gross farm value attributed to lard and to edible and inedible byproducts.

[5] Government processing taxes on hogs were in effect from Nov. 5, 1933, to Jan. 6, 1936. The effect of these taxes was to decrease the spread and increase the amount received by farmers. The adjusted data are:

Year	Retail price	Gross farm value	Byproduct allowance	Net farm value	Farm retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Percent*
1933	15.6	8.0	1.5	6.5	9.1	42
1934	21.0	13.7	2.6	11.1	9.9	53
1935	30.2	24.0	5.0	19.0	11.2	63

[6] Farm-retail spread plus Government payments to processors were: 1943, 10.9 cents; 1944, 11.3 cents; 1945, 10.8 cents; and 1946, 14.0 cents.

TABLE 54.—*Dairy products: Retail cost, farm value, farm-retail spread, and farmer's share of the retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value [2]	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	161.74	90.59	71.15	56
1948	179.29	99.69	79.60	56
1949	166.81	84.71	82.10	51
1950	163.67	82.65	81.02	50
1951	183.55	95.62	87.93	52
1952	191.29	100.93	90.36	53
1953	187.35	92.29	95.06	49
1954	181.59	84.64	96.95	47
1955	181.03	83.67	97.36	46
1956	185.48	86.64	98.84	47
1957	--------	--------	--------	--------
1947				
January–March	163.43	92.33	71.10	56
April–June	153.62	83.68	69.94	54
July–September	159.87	89.18	70.69	56
October–December	170.04	97.15	72.89	57
1948				
January–March	175.92	101.27	74.65	58
April–June	176.91	100.59	76.32	57
July–September	183.33	102.45	80.88	56
October–December	180.98	94.45	86.53	52
1949				
January–March	172.79	89.06	83.73	52
April–June	163.76	81.85	81.91	50
July–September	164.44	82.98	81.46	50
October–December	166.25	84.95	81.30	51
1950				
January–March	162.91	83.05	79.86	51
April–June	157.81	78.51	79.30	50
July–September	162.56	81.08	81.48	50
October–December	171.42	87.97	83.45	51
1951				
January–March	181.76	95.88	85.88	53
April–June	181.71	93.31	88.40	51
July–September	183.44	94.25	89.19	51
October–December	187.28	99.06	88.22	53
1952				
January–March	192.17	103.21	88.96	54
April–June	187.87	97.62	90.25	52
July–September	190.88	100.58	90.30	53
October–December	194.23	102.30	91.93	53
1953				
January–March	189.53	96.19	93.34	51
April–June	184.87	89.30	95.57	48
July–September	186.42	90.58	95.84	49
October–December	188.57	93.09	95.48	49
1954				
January–March	186.52	88.81	97.71	48
April–June	177.49	80.35	97.14	45
July–September	179.81	83.15	96.66	46
October–December	182.53	86.23	96.30	47
1955				
January–March	181.34	84.02	97.32	46
April–June	178.34	80.96	97.38	45
July–September	180.62	83.36	97.26	46
October–December	183.81	86.34	97.47	47
1956				
January–March	182.75	85.10	97.65	47
April–June	182.69	84.42	98.27	46
July–September	186.63	87.01	99.62	47
October–December	189.86	90.01	99.85	47
1957				
January–March	189.76	88.82	100.94	47
April–June	188.56	85.90	102.66	46
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81-85.

[2] Payment to farmer for milk and cream, adjusted for value of byproducts.

TABLE 55.—*Dairy products: Indexes of retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1919–56* [1]

Year	Retail cost 1947–49=100	Farm value 1947–49=100	Farm-retail spread 1947–49=100 (2)	Farmer's share
				Percent
1919	77	78	74	56
1920	79	79	79	55
1921	66	59	74	49
1922	60	54	67	50
1923	65	62	69	52
1924	63	59	67	52
1925	65	61	69	52
1926	65	62	69	52
1927	66	63	70	53
1928	67	65	70	53
1929	67	64	70	53
1930	62	56	69	50
1931	53	45	62	47
1932	45	35	55	44
1933	44	35	54	44
1934	47	41	55	48
1935	51	46	57	50
1936	53	49	59	51
1937	55	52	59	51
1938	52	46	60	49
1939	51	44	58	48
1940	53	47	61	48
1941	58	53	64	50
1942	65	61	70	51
1943	70	70	72	55
1944	69	71	72	57
1945	70	71	72	56
1946	85	89	80	57
1947	96	99	92	56
1948	106	109	102	56
1949	98	92	106	51
1950	97	90	104	50
1951	108	104	113	52
1952	113	110	116	53
1953	111	101	122	49
1954	107	92	125	47
1955	107	91	125	46
1956	110	95	127	47
1957	----------	----------	----------	--------

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[1] Data for 1947 and later years are for dairy products representative of those bought by urban families in 1952. For the years before 1946, the series were weighted by quantities of dairy products bought per family in 1935–39. Index numbers were computed by "linking" the two series at 1946. The dollar figures for the group, which are published quarterly in "The Marketing and Transportation Situation," can be converted to index numbers by dividing by the following 1947–49 averages: Retail cost, $169.28; farm value, $91.66; farm-retail spread, $77.62.

[2] The farm-retail spread was adjusted to include Government payments to processors in 1943–46.

TABLE 56.—*Butter: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57* [1]

Year and quarter	Retail price per pound	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	68.8	43.8	25.0	64
1920	70.2	45.2	25.0	64
1921	51.8	30.9	20.9	60
1922	47.9	29.6	18.3	62
1923	55.5	34.9	20.6	63
1924	51.8	32.7	19.1	63
1925	54.9	34.2	20.7	62
1926	53.2	33.9	19.3	64
1927	56.0	35.9	20.1	64
1928	56.7	37.2	19.5	66
1929	55.2	36.4	18.8	66
1930	46.1	28.3	17.8	61
1931	35.6	20.5	15.1	58
1932	27.6	14.6	13.0	53
1933	27.3	15.3	12.0	56
1934	31.6	18.8	12.8	59
1935	35.8	23.2	12.6	65
1936	39.3	26.7	12.6	68
1937	40.5	27.7	12.8	68
1938	34.5	22.0	12.5	64
1939	32.3	20.1	12.2	62
1940	35.8	23.7	12.1	66
1941	40.9	28.4	12.5	69
1942	47.0	33.4	13.6	71
1943 [3]	52.4	41.4	11.0	79
1944 [3]	49.7	41.8	7.9	84
1945 [3]	50.4	41.7	8.7	83
1946 [3]	70.5	53.9	16.6	76
1947	80.0	61.0	19.0	76
1948	86.2	64.9	21.3	75
1949	72.1	51.9	20.2	72
1950	72.3	52.2	20.1	72
1951	81.4	60.0	21.4	74
1952	85.0	62.6	22.4	74
1953	79.0	56.7	22.3	72
1954	72.4	50.4	22.0	70
1955	70.9	49.2	21.7	69
1956	72.1	50.9	21.2	71
1957	------	------	------	------
1947				
January–March	79.0	59.8	19.2	76
April–June	70.9	54.2	16.7	76
July–September	82.5	62.9	19.6	76
October–December	87.7	67.1	20.6	77
1948				
January–March	89.7	69.8	19.9	78
April–June	91.6	69.1	22.5	75
July–September	88.1	66.4	21.7	75
October–December	75.5	54.4	21.1	72
1949				
January–March	73.8	53.8	20.0	73
April–June	70.5	50.3	20.2	71
July–September	71.4	50.8	20.6	71
October–December	72.8	52.6	20.2	72
1950				
January–March	71.9	52.7	19.2	73
April–June	71.0	50.5	20.5	71
July–September	71.4	51.1	20.3	72
October–December	74.7	54.6	20.1	73
1951				
January–March	81.9	60.2	21.7	74
April–June	80.4	59.1	21.3	74
July–September	79.9	58.0	21.9	73
October–December	83.5	62.6	20.9	75
1952				
January–March	91.3	67.2	24.1	74
April–June	82.0	60.6	21.4	74
July–September	83.9	61.8	22.1	74
October–December	82.9	60.8	22.1	73
1953				
January–March	79.7	57.7	22.0	72
April–June	78.5	56.0	22.5	71
July–September	78.2	56.1	22.1	72
October–December	79.5	57.0	22.5	72
1954				
January–March	79.0	55.1	23.9	70
April–June	69.6	48.3	21.3	69
July–September	69.2	48.4	20.8	70
October–December	71.7	49.8	21.9	69
1955				
January–March	71.3	49.7	21.6	70
April–June	70.5	48.8	21.7	69
July–September	70.6	48.7	21.9	69
October–December	71.1	49.7	21.4	70
1956				
January–March	70.8	49.8	21.0	70
April–June	71.4	50.5	20.9	71
July–September	72.1	50.9	21.2	71
October–December	74.2	52.3	21.9	70
1957				
January–March	74.2	51.7	22.5	70
April–June	73.9	51.5	22.4	70
July–September	------	------	------	------
October–December	------	------	------	------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81–85.

[2] A weighted average of payments to farmer for butterfat in farm-separated cream and in milk equivalent to 1 pound of butter.

[3] Data with farm value and farm-retail spread adjusted for Government payments to farmers in 1943–46 and to processors in 1943–45, are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1943	52.4	42.1	13.8	80
1944	49.7	47.2	12.9	95
1945	50.4	50.7	12.9	101
1946	70.5	60.1	16.6	85

TABLE 57.—*Cheese, American process: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1949–57* [1]

Year and quarter	Retail price per pound	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1949	51.4	26.8	24.6	52
1950	51.1	27.4	23.7	54
1951	58.3	33.7	24.6	58
1952	59.9	35.2	24.7	59
1953	59.6	30.8	28.8	52
1954	57.2	27.7	29.5	48
1955	57.1	27.7	29.4	49
1956	57.2	28.5	28.7	50
1957	-------	-------	-------	-------
1949				
January–March	52.6	27.6	25.0	52
April–June	50.4	25.9	24.5	51
July–September	50.9	26.3	24.6	52
October–December	51.8	27.3	24.5	53
1950				
January–March	51.4	27.2	24.2	53
April–June	50.7	26.3	24.4	52
July–September	50.8	26.7	24.1	53
October–December	51.5	29.3	22.2	57
1951				
January–March	58.4	34.8	23.6	60
April–June	58.6	33.1	25.5	56
July–September	57.9	32.8	25.1	57
October–December	58.3	33.9	24.4	58
1952				
January–March	59.4	35.5	23.9	60
April–June	59.3	34.6	24.7	58
July–September	59.8	35.5	24.3	59
October–December	61.1	35.3	25.8	58
1953				
January–March	60.2	32.4	27.8	54
April–June	59.8	30.1	29.7	50
July–September	59.4	29.8	29.6	50
October–December	59.2	30.7	28.5	52
1954				
January–March	59.1	29.4	29.7	50
April–June	57.0	26.1	30.9	46
July–September	56.3	27.2	29.1	48
October–December	56.4	28.2	28.2	50
1955				
January–March	57.0	28.0	29.0	49
April–June	57.2	27.1	30.1	47
July–September	57.2	27.3	29.9	48
October–December	57.0	28.2	28.8	49
1956				
January–March	57.0	28.4	28.6	50
April–June	57.1	28.4	28.7	50
July–September	57.3	28.4	28.9	50
October–December	57.2	28.8	28.4	50
1957				
January–March	57.4	29.4	28.0	51
April–June	57.5	28.6	28.9	50
July–September	-------	-------	-------	-------
October–December	-------	-------	-------	-------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81–85.

[2] Payment to farmers for a quantity of milk containing 0.36 pound of butterfat less the value of butterfat separated from whey.

TABLE 58.—*Ice cream: Retail price, farm value, farm-retail spread, and farmer's share of the retail price, 1951–56* [1]

Year	Retail price per pint	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1951	30.0	6.5	23.5	22
1952	30.2	6.7	23.5	22
1953	30.1	6.1	24.0	20
1954	29.6	5.4	24.2	18
1955	29.0	5.3	23.7	18
1956	28.9	5.5	23.4	19
1957	----------	----------	----------	----------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81-85.

[2] Payments to farmer for milk and cream, adjusted for value of byproducts.

TABLE 59.—*Milk, evaporated: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1922–56* [1]

Year	Retail price per 14½ ounce can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1922	10.1	3.5	6.6	35
1923	10.9	4.6	6.3	42
1924	10.2	3.8	6.4	37
1925	10.1	4.1	6.0	41
1926	10.3	4.1	6.2	40
1927	10.3	4.4	5.9	43
1928	10.0	4.4	5.6	44
1929	9.8	4.2	5.6	43
1930	9.1	3.5	5.6	38
1931	8.2	2.5	5.7	30
1932	6.8	1.9	4.9	28
1933	6.5	2.0	4.5	31
1934	6.7	2.4	4.3	36
1935	7.0	2.8	4.2	40
1936	7.6	3.2	4.4	42
1937	7.6	3.3	4.3	43
1938	7.1	2.6	4.5	37
1939	6.8	2.6	4.2	38
1940	7.0	2.9	4.1	41
1941	7.8	3.8	4.0	49
1942	8.9	4.3	4.6	48
1943 [3]	10.0	5.4	4.6	54
1944 [3]	10.0	5.5	4.5	55
1945 [3]	10.0	5.5	4.5	55
1946 [3]	11.5	7.0	4.5	61
1947	13.1	7.2	5.9	55
1948	14.8	8.2	6.6	55
1949	13.1	5.9	7.2	45
1950	12.6	6.0	6.6	48
1951	14.4	7.4	7.0	51
1952	14.9	7.9	7.0	53
1953	14.6	6.6	8.0	45
1954	13.9	6.0	7.9	43
1955	13.7	6.0	7.7	44
1956	14.0	6.2	7.8	44
1957	----------	----------	----------	----------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81-85.

[2] Payment to farmers for milk containing 0.0774 pound of butterfat, adjusted for value of byproduct.

[3] Data with farm value adjusted to include Government payment to farmers are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1943	10.0	5.6	4.6	56
1944	10.0	6.4	4.5	64
1945	10.0	6.5	4.5	65
1946	11.5	7.5	4.5	65

TABLE 60.—*Milk, fluid: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1922–57* [1]

Year and quarter	Retail price per quart	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1922	12.6	5.3	7.3	42
1923	13.3	6.2	7.1	47
1924	12.8	6.0	6.8	47
1925	13.3	6.2	7.1	47
1926	13.3	6.3	7.0	47
1927	13.5	6.3	7.2	47
1928	13.5	6.4	7.1	47
1929	13.7	6.5	7.2	47
1930	13.5	6.2	7.3	46
1931	12.0	5.0	7.0	42
1932	10.2	3.9	6.3	38
1933	9.8	3.7	6.1	38
1934	10.7	4.3	6.4	40
1935	11.2	4.7	6.5	42
1936	11.5	4.9	6.6	43
1937	12.0	5.3	6.7	44
1938	12.0	5.2	6.8	43
1939	11.7	5.0	6.7	43
1940	12.3	5.1	7.2	41
1941	13.0	5.5	7.5	42
1942	14.3	6.4	7.9	45
1943 [3]	14.9	7.2	7.7	48
1944 [3]	15.0	7.4	7.6	49
1945 [3]	15.0	7.5	7.5	50
1946 [3]	17.0	9.0	8.0	53
1947	19.0	10.3	8.7	54
1948	21.1	11.3	9.8	54
1949	20.2	10.3	9.9	51
1950	19.8	9.9	9.9	50
1951	22.1	11.2	10.9	51
1952	23.2	11.9	11.3	51
1953	22.8	11.1	11.7	49
1954	22.4	10.4	12.0	46
1955	22.5	10.2	12.3	45
1956	23.3	10.6	12.7	45
1957	--------	--------	--------	--------
1947				
January–March	19.0	10.5	8.5	55
April–June	18.1	9.7	8.4	54
July–September	18.7	10.1	8.6	54
October–December	20.0	10.8	9.2	54
1948				
January–March	20.6	11.2	9.4	54
April–June	20.5	11.1	9.4	54
July–September	21.4	11.5	9.9	54
October–December	22.0	11.5	10.5	52
1949				
January–March	21.0	11.0	10.0	52
April–June	19.9	10.0	9.9	50
July–September	20.0	10.1	9.9	50
October–December	20.2	10.3	9.9	51
1950				
January–March	19.6	9.9	9.7	51
April–June	18.8	9.3	9.5	49
July–September	19.6	9.7	9.9	49
October–December	21.0	10.5	10.5	50
1951				
January–March	21.7	11.1	10.6	51
April–June	21.7	10.8	10.9	50
July–September	22.2	11.2	11.0	50
October–December	22.7	11.7	11.0	52
1952				
January–March	23.1	12.0	11.1	52
April–June	22.7	11.4	11.3	50
July–September	23.2	11.9	11.3	51
October–December	23.8	12.3	11.5	52
1953				
January–March	23.1	11.6	11.5	50
April–June	22.3	10.7	11.6	48
July–September	22.8	11.0	11.8	48
October–December	23.2	11.3	11.9	49
1954				
January–March	22.8	10.7	12.1	47
April–June	21.8	9.8	12.0	45
July–September	22.3	10.3	12.0	46
October–December	22.8	10.7	12.1	47
1955				
January–March	22.5	10.2	12.3	45
April–June	22.0	9.8	12.2	45
July–September	22.4	10.3	12.1	46
October–December	23.1	10.7	12.4	46
1956				
January–March	22.9	10.4	12.5	45
April–June	22.8	10.2	12.6	45
July–September	23.5	10.7	12.8	46
October–December	24.0	11.2	12.8	47
1957				
January–March	23.9	10.9	13.0	46
April–June	23.6	10.4	13.2	44
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dairy products is described in greater detail on pp. 81–85.

[2] Payment to farmers for 2.18 pounds of Class I milk.

[3] Data with farm value and farm-retail spread adjusted to include Government payments to farmers and milk dealers are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1943	14.9	7.4	7.7	50
1944	15.0	8.6	7.7	57
1945	15.0	8.8	7.6	59
1946	17.0	9.7	8.0	57

TABLE 61.—*Poultry and eggs: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	113.56	78.64	34.92	69
1948	121.52	85.10	36.42	70
1949	115.95	78.34	37.61	68
1950	105.16	68.66	36.50	65
1951	119.77	80.98	38.79	68
1952	114.11	75.63	38.48	66
1953	115.85	78.91	36.94	68
1954	100.58	63.15	37.43	63
1955	104.11	68.29	35.82	66
1956	97.66	61.43	36.23	63
1957	--------	--------	--------	--------
1947				
January–March	105.22	71.53	33.69	68
April–June	107.16	74.66	32.50	70
July–September	118.49	81.47	37.02	69
October–December	123.37	86.88	36.49	70
1948				
January–March	116.47	82.55	33.92	71
April–June	116.21	80.68	35.53	69
July–September	125.06	86.82	38.24	69
October–December	128.36	90.36	38.00	70
1949				
January–March	115.68	78.23	37.45	68
April–June	114.19	75.73	38.46	66
July–September	120.39	81.65	38.74	68
October–December	113.54	77.77	35.77	68
1950				
January–March	93.01	60.73	32.28	65
April–June	98.61	62.72	35.89	64
July–September	110.27	72.72	37.55	66
October–December	118.77	78.45	40.32	66
1951				
January–March	113.16	76.08	37.08	67
April–June	117.77	78.90	38.87	67
July–September	124.34	84.50	39.84	68
October–December	123.81	84.45	39.36	68
1952				
January–March	107.63	69.86	37.77	65
April–June	103.84	65.80	38.04	63
July–September	121.55	82.24	39.31	68
October–December	123.43	84.64	38.79	69
1953				
January–March	113.21	76.59	36.62	68
April–June	113.01	77.27	35.74	68
July–September	119.57	81.97	37.60	69
October–December	117.63	79.82	37.81	68
1954				
January–March	107.50	70.81	36.69	66
April–June	97.56	61.79	35.77	63
July–September	101.65	63.64	38.01	63
October–December	95.59	56.37	39.22	59
1955				
January–March	101.62	68.00	33.62	67
April–June	101.17	66.59	34.58	66
July–September	107.74	69.97	37.77	65
October–December	105.90	68.62	37.28	65
1956				
January–March	101.74	66.70	35.04	66
April–June	95.99	61.25	34.74	64
July–September	97.78	60.41	37.37	62
October–December	95.12	57.36	37.76	60
1957				
January–March	90.68	54.36	36.32	60
April–June	87.28	52.59	34.69	60
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for poultry and eggs is described in greater detail on pp. 85-87.

TABLE 62.—*Chickens, frying (ready-to-cook): Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1949–57* [1]

Year and quarter	Retail price per pound	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1950	58.5	37.4	21.1	64
1951	61.3	39.0	22.3	64
1952	61.6	39.7	21.9	64
1953	60.0	37.0	23.0	62
1954	54.2	31.6	22.6	58
1955	56.2	34.6	21.6	62
1956	49.0	27.0	22.0	55
1957	-------	-------	-------	-------
1949				
January–March	-------	-------	-------	-------
April–June	61.3	38.2	23.1	62
July–September	60.3	38.6	21.7	64
October–December	58.4	37.1	21.3	64
1950				
January–March	53.7	35.2	18.5	66
April–June	59.3	38.2	21.1	64
July–September	62.9	41.4	21.5	66
October–December	58.2	34.9	23.3	60
1951				
January–March	61.4	39.5	21.9	64
April–June	62.7	40.7	22.0	65
July–September	62.2	40.2	22.0	65
October–December	59.0	35.5	23.5	60
1952				
January–March	61.8	39.4	22.4	64
April–June	58.1	36.2	21.9	62
July–September	62.5	41.8	20.7	67
October–December	63.9	41.3	22.6	65
1953				
January–March	61.5	38.2	23.3	62
April–June	59.5	37.2	22.3	63
July–September	60.5	38.0	22.5	63
October–December	58.6	34.7	23.9	59
1954				
January–March	55.7	32.1	23.6	58
April–June	55.0	33.1	21.9	60
July–September	55.4	33.5	21.9	60
October–December	50.7	27.5	23.2	54
1955				
January–March	56.0	36.3	19.7	65
April–June	59.4	37.7	21.7	63
July–September	57.9	35.9	22.0	62
October–December	51.3	28.6	22.7	56
1956				
January–March	50.6	29.0	21.6	57
April–June	49.7	28.1	21.6	57
July–September	49.8	27.2	22.6	55
October–December	46.1	23.6	22.5	51
1957				
January–March	48.1	26.1	22.0	54
April–June	48.6	27.1	21.5	56
July–September	-------	-------	-------	-------
October–December	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for frying chickens is described in greater detail on pp. 86.

[2] Payment to farmer for 1.37 pounds live chicken.

TABLE 63.—*Eggs: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57*

Year and quarter	Retail price per dozen	Farm value ²	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	60.2	46.0	14.2	76
1920	65.3	49.2	16.1	75
1921	48.8	34.0	14.8	70
1922	42.6	29.0	13.6	68
1923	44.6	30.7	13.9	69
1924	45.5	31.2	14.3	69
1925	49.5	34.7	14.8	70
1926	46.4	32.4	14.0	70
1927	43.6	29.1	14.5	67
1928	45.0	31.2	13.8	69
1929	47.1	33.1	14.0	70
1930	39.8	25.9	13.9	65
1931	31.3	19.1	12.2	61
1932	27.0	16.5	10.5	61
1933	25.5	15.8	9.7	62
1934	29.0	18.9	10.1	65
1935	34.1	24.8	9.3	73
1936	33.8	23.6	10.2	70
1937	33.2	22.4	10.8	67
1938	32.9	21.9	11.0	67
1939	29.8	19.0	10.8	64
1940	30.7	19.7	11.0	64
1941	36.8	25.8	11.0	70
1942	44.7	32.3	12.4	72
1943	53.0	39.8	13.2	75
1944	50.4	34.8	15.6	69
1945	53.9	40.2	13.7	75
1946	55.3	40.4	14.9	73
1947	65.8	47.8	18.0	73
1948	68.4	49.4	19.0	72
1949	65.9	46.8	19.1	71
1950	57.1	38.0	19.1	67
1951	69.7	49.4	20.3	71
1952	63.6	43.2	20.1	68
1953	66.8	49.0	17.8	73
1954	56.2	37.5	18.7	67
1955	58.1	40.1	18.0	69
1956	57.7	39.8	17.9	69
1957	--------	--------	--------	--------
1947				
January–March	58.0	41.2	16.8	71
April–June	60.1	42.2	17.9	70
July–September	70.5	50.2	20.3	71
October–December	74.6	57.5	17.1	77
1948				
January–March	64.9	46.8	18.1	72
April–June	63.0	43.8	19.2	70
July–September	70.5	50.3	20.2	71
October–December	75.2	56.9	18.3	76
1949				
January–March	62.6	44.7	17.9	71
April–June	63.9	44.6	19.3	70
July–September	71.3	50.4	20.9	71
October–December	65.9	47.7	18.2	72
1950				
January–March	48.8	31.7	17.1	65
April–June	49.6	31.1	18.5	63
July–September	58.4	38.7	19.7	66
October–December	71.5	50.4	21.1	70
1951				
January–March	62.8	43.8	19.0	70
April–June	66.4	45.7	20.7	69
July–September	73.7	51.9	21.8	70
October–December	76.0	56.0	20.0	74
1952				
January–March	56.7	37.5	19.2	66
April–June	56.0	36.1	19.9	64
July–September	70.5	48.1	22.4	68
October–December	71.3	51.1	20.2	72
1953				
January–March	62.7	45.5	17.2	73
April–June	64.4	47.1	17.3	73
July–September	70.3	51.2	19.1	73
October–December	69.9	52.0	17.9	74
1954				
January–March	62.0	44.9	17.1	72
April–June	52.3	34.7	17.6	66
July–September	56.2	36.3	19.9	65
October–December	54.1	34.0	20.1	63
1955				
January–March	55.6	38.3	17.3	69
April–June	52.1	35.5	16.6	68
July–September	60.3	40.7	19.6	67
October–December	64.2	45.8	18.4	71
1956				
January–March	60.5	43.4	17.1	72
April–June	55.4	38.6	16.8	70
July–September	57.2	38.5	18.7	67
October–December	57.3	38.6	18.7	67
1957				
January–March	51.3	33.2	18.1	65
April–June	47.4	30.5	16.9	64
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for eggs is described in greater detail on pp. 86-87.

[2] Payment to farmer for 1.03 dozen eggs.

TABLE 64.—*Bakery and cereal products: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value		Farm-retail spread	Farmer's share	
		Grain	All ingredients		Grain	All ingredients
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Percent*	*Percent*
1947	115.44	27.50	38.50	76.94	24	33
1948	125.62	25.25	36.42	89.20	20	29
1949	124.80	22.14	29.98	94.82	18	24
1950	126.92	23.04	30.71	96.21	18	24
1951	138.01	24.61	34.28	103.73	18	25
1952	141.17	24.47	32.72	108.45	17	23
1953	143.45	24.07	32.96	110.49	17	23
1954	147.09	24.44	33.79	113.30	17	23
1955	148.99	24.07	31.97	117.02	16	21
1956	150.75	23.53	31.78	118.97	16	21
1957	-----	-----	-----	-----	-----	-----
1947						
January-March	107.65	25.10	37.57	70.08	23	35
April-June	114.90	26.76	37.36	77.54	23	33
July-September	116.05	26.36	35.63	80.42	23	31
October-December	123.17	31.78	43.42	79.75	26	35
1948						
January-March	126.75	27.83	39.53	87.22	22	31
April-June	125.53	25.57	37.05	88.48	20	30
July-September	125.39	23.97	35.15	90.24	19	28
October-December	124.82	23.64	33.95	90.87	19	27
1949						
January-March	125.20	22.96	31.33	93.87	18	25
April-June	125.18	21.97	29.70	95.48	18	24
July-September	124.52	21.25	28.99	95.53	17	23
October-December	124.28	22.38	29.88	94.40	18	24
1950						
January-March	124.35	22.81	30.18	94.17	18	24
April-June	124.79	22.78	30.10	94.69	18	24
July-September	128.23	23.26	31.10	97.13	18	24
October-December	130.30	23.30	31.48	98.82	18	24
1951						
January-March	136.81	25.42	35.22	101.59	19	26
April-June	137.78	24.52	34.50	103.28	18	25
July-September	138.43	23.73	33.28	105.15	17	24
October-December	139.01	24.76	34.12	104.89	18	25
1952						
January-March	139.97	24.87	33.53	106.44	18	24
April-June	141.07	24.22	32.50	108.57	17	23
July-September	141.89	24.03	32.22	109.67	17	23
October-December	141.74	24.75	32.63	109.11	17	23
1953						
January-March	142.11	24.83	33.10	109.01	17	23
April-June	143.03	24.22	32.71	110.32	17	23
July-September	143.76	23.11	32.14	111.62	16	22
October-December	144.92	24.14	33.88	111.04	17	23
1954						
January-March	146.22	24.57	34.37	111.85	17	24
April-June	146.28	23.57	33.25	113.03	16	23
July-September	147.48	24.37	33.52	113.96	17	23
October-December	148.40	25.25	34.03	114.37	17	23
1955						
January-March	149.03	25.27	33.49	115.54	17	22
April-June	148.98	24.64	32.75	116.23	17	22
July-September	149.01	23.08	30.73	118.28	15	21
October-December	148.92	23.31	30.91	118.01	16	21
1956						
January-March	149.03	23.39	31.30	117.73	16	21
April-June	149.75	23.40	31.88	117.87	16	21
July-September	151.58	23.16	31.24	120.34	15	21
October-December	152.64	24.18	32.70	119.94	16	21
1957						
January-March	154.81	24.65	33.45	121.36	16	22
April-June	156.56	23.94	32.18	124.38	15	21
July-September	-----	-----	-----	-----	-----	-----
October-December	-----	-----	-----	-----	-----	-----

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for bakery and cereal products is described in greater detail on pp. 87–89.

TABLE 65.—*Bakery and cereal products: Indexes of retail cost, farm value, and farm-retail spread, and farmer's share of retail cost, 1919–56* [1]

Year	Retail cost 1947–49 = 100	Farm value 1947–49 = 100	Farm-retail spread 1947–49 = 100 (2)	Farmer's share
				Percent
1919	78	102	68	40
1920	88	102	83	35
1921	73	56	80	23
1922	65	51	70	24
1923	64	49	69	23
1924	65	55	68	26
1925	71	71	71	30
1926	70	64	73	27
1927	68	57	73	25
1928	67	55	72	25
1929	65	51	71	24
1930	62	42	71	20
1931	53	27	63	16
1932	47	21	57	14
1933	51	28	58	17
1934	59	39	63	20
1935	61	44	63	22
1936	60	47	65	23
1937	61	50	65	25
1938	57	33	67	17
1939	53	31	62	18
1940	55	35	62	19
1941	56	42	61	23
1942	61	51	65	25
1943	66	63	66	29
1944	67	69	69	30
1945	67	71	70	31
1946	77	83	77	32
1947	95	110	88	33
1948	103	104	103	29
1949	102	86	109	24
1950	104	88	111	24
1951	113	98	119	25
1952	116	94	125	23
1953	118	94	127	23
1954	121	97	130	23
1955	122	91	135	21
1956	124	91	137	21
1957	----------------	----------------	----------------	--

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[1] Data for 1947 and later years are for bakery and cereal products representative of those bought by urban families in 1952 (adjusted as described on p. 87). For the years before 1947, the series were weighed by quantities of bakery and cereal products bought per family in 1935–39. Index numbers were computed by "linking" the two series at 1947. The dollar figures for the group, which are published currently in "The Marketing and Transportation Situation," can be converted to index numbers by dividing by the following 1947–49 average: Retail cost, $121.95; farm value, $34.97; farm-retail spread, $86.98.

[2] The farm-retail spread was adjusted to exclude processing taxes in 1933–35 and to include Government payments to processors in 1944–46.

TABLE 66.—*Bread, white: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per pound	Farm value		Farm-retail spread	Farmer's share	
		Wheat [2]	All ingredients [3]		Wheat	All ingredients
	Cents	*Cents*	*Cents*	*Cents*	*Percent*	*Percent*
1919	10.2	2.8	3.4	6.8	27	33
1920	11.7	2.9	3.4	8.3	25	29
1921	10.1	1.6	1.9	8.2	16	19
1922	8.9	1.4	1.6	7.3	16	18
1923	8.9	1.2	1.6	7.3	13	18
1924	8.9	1.4	1.8	7.1	16	20
1925	9.4	2.0	2.3	7.1	21	24
1926	9.4	1.8	2.1	7.3	19	22
1927	9.3	1.6	1.8	7.5	17	19
1928	9.0	1.4	1.7	7.3	16	19
1929	8.9	1.3	1.6	7.3	15	18
1930	8.7	1.0	1.3	7.4	11	15
1931	7.8	.6	.8	7.0	8	10
1932	7.1	.5	.6	6.5	7	8
1933	7.2	.8	.9	6.3	11	12
1934	8.2	1.1	1.2	7.0	13	15
1935	8.5	1.1	1.4	7.1	13	16
1936	8.4	1.2	1.5	6.9	14	18
1937	8.6	1.4	1.6	7.0	16	19
1938	8.6	.9	1.0	7.6	10	12
1939	7.9	.8	1.0	6.9	10	13
1940	8.0	.9	1.1	6.9	11	14
1941	8.1	1.0	1.3	6.8	12	16
1942	8.7	1.2	1.6	7.1	14	18
1943	8.9	1.5	1.9	7.0	17	21
1944	8.8	1.7	2.1	[4] 6.7	19	24
1945	8.8	1.8	2.2	[4] 6.6	20	25
1946	10.4	2.1	2.6	[4] 7.8	20	25
1947	12.5	3.0	3.7	8.8	24	30
1948	13.9	2.6	3.4	10.5	19	24
1949	14.0	2.4	2.9	11.1	17	21
1950	14.3	2.5	3.0	11.3	17	21
1951	15.7	2.6	3.3	12.4	17	21
1952	16.0	2.6	3.2	12.8	16	20
1953	16.4	2.5	3.1	13.3	15	19
1954	17.1	2.7	3.3	13.8	16	19
1955	17.5	2.7	3.2	14.3	15	18
1956	17.9	2.6	3.2	14.7	15	18
1957	-------	-------	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for bread is described in greater detail on p. 88.

[2] Payment to farmer for 0.894 pound of wheat less estimated value of millfeed byproducts.

[3] Payment to farmer for wheat (less value of byproducts) and other farm products yielding ingredients used in the baking of a pound loaf of bread.

[4] Farm-retail spread plus Government payments to processors was: 1944, 7.0 cents; 1945, 7.0 cents; and 1946, 8.0 cents.

TABLE 67.—*Crackers, soda: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	26.6	4.0	22.6	15
1954	27.2	4.2	23.0	15
1955	27.0	4.2	22.8	16
1956	27.6	4.0	23.6	14
1957	----------	----------	----------	----------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for crackers is described in greater detail on p. 88.

[2] Payment to farmer for 1.40 pounds of wheat, less estimated value of byproducts.

TABLE 68.—*Corn flakes: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per 12-ounce package	Farm value ([2])	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	20.5	2.6	17.9	13
1920	20.8	2.4	18.4	12
1921	18.3	.9	17.4	5
1922	14.5	1.0	13.5	7
1923	14.1	1.3	12.8	9
1924	14.4	1.5	12.9	10
1925	15.9	1.6	14.3	10
1926	15.7	1.1	14.6	7
1927	14.8	1.2	13.6	8
1928	14.1	1.4	12.7	10
1929	13.9	1.5	12.4	11
1930	13.8	1.4	12.4	10
1931	13.2	.9	12.3	7
1932	12.6	.4	12.2	3
1933	12.4	.6	11.8	5
1934 [3]	12.7	1.1	11.6	9
1935 [3]	12.4	1.4	11.0	11
1936	12.1	1.4	10.7	12
1937	12.0	1.7	10.3	14
1938	11.1	.8	10.3	7
1939	10.6	.9	9.7	8
1940	10.6	1.1	9.5	10
1941	10.6	1.2	9.4	11
1942	10.6	1.6	9.0	15
1943	10.2	2.0	8.2	20
1944	9.7	2.3	7.4	24
1945	9.9	2.2	7.7	22
1946	11.4	2.9	8.5	25
1947	14.8	3.6	11.2	24
1948	18.2	3.7	14.5	20
1949	18.4	2.3	16.1	12
1950	18.7	3.0	15.7	16
1951	20.6	3.3	17.3	16
1952	21.5	3.8	17.7	18
1953	21.7	3.6	18.1	17
1954	21.9	3.0	18.9	14
1955	22.0	2.7	19.3	12
1956	22.0	2.8	19.2	13
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in computing price spreads for corn flakes is described in greater detail on p. 88.

[2] Payment to farmer for 1.57 pounds of corn, less estimated value of byproducts.

[3] Government processing taxes on corn were in effect from Nov. 5, 1933, through Jan. 6, 1935. The effect of these taxes was to decrease the spread and increase the amount received by farmers. The adjusted data are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1934	12.7	1.2	11.5	9
1935	12.4	1.5	10.9	12

TABLE 69.—*Corn meal: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per pound	Farm value ([2])	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	7.0	3.0	4.0	43
1920	7.1	2.7	4.4	38
1921	5.0	1.1	3.9	22
1922	4.3	1.2	3.1	28
1923	4.5	1.5	3.0	33
1924	5.0	1.8	3.2	36
1925	6.0	2.0	4.0	33
1926	5.5	1.4	4.1	25
1927	5.6	1.6	4.0	29
1928	5.8	1.7	4.1	29
1929	5.8	1.8	4.0	31
1930	5.8	1.6	4.2	28
1931	4.9	1.0	3.9	20
1932	3.9	.6	3.3	15
1933	3.8	.8	3.0	21
1934 [3]	4.8	1.3	3.5	27
1935 [3]	5.5	1.6	3.9	29
1936	5.6	1.6	4.0	29
1937	6.1	2.0	4.1	33
1938	5.0	1.0	4.0	20
1939	4.8	1.1	3.7	23
1940	5.0	1.3	3.7	26
1941	5.1	1.4	3.7	27
1942	5.7	1.9	3.8	33
1943	6.7	2.3	4.4	34
1944	7.4	2.5	4.9	34
1945	7.6	2.4	5.2	32
1946	8.9	3.1	5.8	35
1947	11.6	3.9	7.7	34
1948	13.0	4.2	8.8	32
1949	10.8	2.6	8.2	24
1950	10.7	3.3	7.4	31
1951	11.4	3.7	7.7	32
1952	12.3	4.1	8.2	33
1953	12.6	3.8	8.8	30
1954	12.6	3.2	9.4	25
1955	12.6	2.8	9.8	22
1956	12.6	2.9	9.7	23
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp.65-76. Methodology used in estimating price spreads for corn meal is described in greater detail on pp. 88-89.

[2] Payments to farmer for 1.34 pounds of corn, less estimated value of byproducts.

[3] Government processing taxes on corn were in effect from Nov. 5, 1933, to Jan. 6, 1935. The effect of these taxes was to decrease the spread and increase the amount received by farmers. The adjusted data are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1934	4.8	1.4	3.4	29
1935	5.5	1.7	3.8	31

TABLE 70.—*Flour, white: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per 5 pounds	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	35.5	21.6	13.9	61
1920	39.6	22.1	17.5	56
1921	28.5	12.2	16.3	43
1922	24.9	10.6	14.3	43
1923	23.0	9.6	13.4	42
1924	24.2	11.0	13.2	45
1925	30.1	15.4	14.7	51
1926	29.6	13.9	15.7	47
1927	27.3	12.0	15.3	44
1928	26.3	11.0	15.3	42
1929	25.0	10.0	15.0	40
1930	22.8	7.9	14.9	35
1931	17.6	4.9	12.7	28
1932	15.6	4.0	11.6	26
1933 [3]	19.2	6.0	13.2	31
1934 [3]	24.2	8.2	16.0	34
1935 [3]	25.2	8.8	16.4	35
1936	23.8	9.6	14.2	40
1937	24.0	10.5	13.5	44
1938	19.8	6.6	13.2	33
1939	19.0	6.2	12.8	33
1940	21.4	7.2	14.2	34
1941	22.6	8.2	14.4	36
1942	26.4	9.5	16.9	36
1943	30.6	12.0	[4] 18.6	39
1944	32.4	13.4	[4] 19.0	41
1945	32.1	14.0	[4] 18.1	44
1946	35.4	16.1	[4] 19.3	45
1947	48.2	23.2	25.0	48
1948	49.0	20.7	28.3	42
1949	47.9	19.0	28.9	40
1950	49.1	19.5	29.6	40
1951	51.9	20.7	31.2	40
1952	52.3	20.3	32.0	39
1953	52.2	19.9	32.3	38
1954	53.3	20.8	32.5	39
1955	53.3	20.7	32.6	39
1956	53.3	20.2	33.1	38
1957	----------	----------	----------	----------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for flour is described in greater detail on p. 88.

[2] Payment to farmer for 7.0 pounds of wheat, less estimated value of byproducts.

[3] Government processing taxes on wheat were in effect from July 9, 1933, to Jan. 6, 1936. The effect of these taxes was to decrease the spread and increase the amount received by farmers. The adjusted data are:

Year	Retail price	Farm value	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1933	19.2	7.5	11.7	39
1934	24.2	11.3	12.9	47
1935	25.2	11.9	13.3	47

[4] Farm-retail spread plus Government payments to processors was: 1943, 18.7 cents; 1944, 20.6 cents; 1945, 20.6 cents; and 1946, 20.9 cents.

TABLE 71.—*Rolled oats: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per 20-ounce package	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	10.8	4.5	6.3	42
1920	13.4	5.0	8.4	37
1921	12.4	2.3	10.1	19
1922	10.9	2.3	8.6	21
1923	10.9	2.7	8.2	25
1924	11.0	3.0	8.0	27
1925	11.5	2.9	8.6	25
1926	11.4	2.5	8.9	22
1927	11.2	2.9	8.3	26
1928	11.1	3.2	7.9	29
1929	11.0	2.8	8.2	25
1930	10.8	2.4	8.4	22
1931	10.0	1.7	8.3	17
1932	9.2	1.2	8.0	13
1933	7.2	1.6	5.6	22
1934	8.5	2.6	5.9	31
1935	9.4	2.6	6.8	28
1936	10.1	2.2	7.9	22
1937	9.9	2.6	7.3	26
1938	9.2	1.7	7.5	18
1939	8.9	1.9	7.0	21
1940	9.0	2.1	6.9	23
1941	9.0	2.3	6.7	26
1942	10.8	3.0	7.8	28
1943	10.9	4.1	6.8	38
1944	11.8	4.8	7.0	41
1945	13.0	4.4	8.6	34
1946	13.1	5.0	8.1	38
1947	14.6	6.0	8.6	41
1948	17.1	6.0	11.1	35
1949	16.5	4.3	12.2	26
1950	16.2	4.8	11.4	30
1951	17.7	5.4	12.3	31
1952	18.1	5.2	12.9	29
1953	18.3	4.9	13.4	27
1954	18.5	5.0	13.5	27
1955	19.1	4.4	14.7	23
1956	19.3	4.4	14.9	23
1957	----------	----------	----------	----------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for rolled oats is described in greater detail on p. 89.

[2] Payment to farmer for 2.56 pounds of oats less value of byproducts.

TABLE 72.—*Fruits and vegetables, fresh and processed: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	180.80	61.33	119.47	34
1948	185.52	60.50	125.02	33
1949	187.71	60.95	126.76	32
1950	179.96	55.83	124.13	31
1951	193.76	59.06	134.70	30
1952	215.30	70.45	144.85	33
1953	210.56	62.39	148.17	30
1954	209.59	61.55	148.04	29
1955	210.07	61.69	148.38	29
1956	219.80	66.71	153.09	30
1957	--------	--------	--------	--------
1947				
January–March	174.14	58.92	115.22	34
April–June	186.12	63.58	122.54	34
July–September	181.51	61.87	119.64	34
October–December	181.44	60.95	120.49	34
1948				
January–March	187.87	63.91	123.96	34
April–June	195.70	64.67	131.03	33
July–September	183.80	59.66	124.14	32
October–December	174.70	53.76	120.94	31
1949				
January–March	190.61	64.14	126.47	34
April–June	199.97	69.41	130.56	35
July–September	183.92	56.85	127.07	31
October–December	176.32	53.39	122.93	30
1950				
January–March	177.93	59.67	118.26	34
April–June	186.06	58.55	127.51	31
July–September	180.52	54.29	126.23	30
October–December	175.34	50.83	124.51	29
1951				
January–March	192.25	59.55	132.70	31
April–June	194.74	56.63	138.11	29
July–September	190.07	56.35	133.72	30
October–December	197.99	63.71	134.28	32
1952				
January–March	204.48	68.16	136.32	33
April–June	224.62	73.62	151.00	33
July–September	220.97	72.03	148.94	33
October–December	211.15	68.01	143.14	32
1953				
January–March	212.94	68.66	144.28	32
April–June	217.99	65.19	152.80	30
July–September	209.95	59.53	150.42	28
October–December	201.38	56.18	145.20	28
1954				
January–March	203.22	57.07	146.15	28
April–June	214.52	64.21	150.31	30
July–September	215.92	66.41	149.51	31
October–December	204.70	58.53	146.17	29
1955				
January–March	205.83	63.04	142.79	31
April–June	221.64	68.36	153.28	31
July–September	210.50	59.03	151.47	28
October–December	202.32	56.33	145.99	28
1956				
January–March	208.22	62.42	145.80	30
April–June	228.05	73.49	154.56	32
July–September	229.34	68.30	161.04	30
October–December	213.61	62.64	150.97	29
1957				
January–March	214.70	61.93	152.77	29
April–June	227.04	67.04	160.00	30
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for the fruits and vegetables group is described in greater detail on pp. 89-93.

TABLE 73.—*Fruits and vegetables, fresh and processed: Indexes of retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1919–56* [1]

Year	Retail cost 1947–49 = 100	Farm value 1947–49 = 100	Farm-retail spread 1947–49 = 100 (2)	Farmer's share
				Percent
1919	87	79	90	30
1920	106	88	115	27
1921	73	72	74	32
1922	77	70	81	30
1923	73	65	78	29
1924	69	59	73	29
1925	81	70	86	28
1926	84	70	91	27
1927	78	64	85	27
1928	75	66	79	29
1929	73	60	79	27
1930	79	65	85	27
1931	55	45	60	27
1932	48	35	54	24
1933	48	37	54	25
1934	53	41	60	25
1935	53	40	59	25
1936	56	47	60	28
1937	57	53	60	30
1938	48	39	53	27
1939	49	40	53	31
1940	49	45	51	33
1941	53	51	54	34
1942	65	67	65	36
1943	85	99	79	40
1944	84	101	76	41
1945	88	106	81	40
1946	91	106	85	38
1947	98	101	97	34
1948	100	99	101	33
1949	102	100	102	32
1950	97	92	100	31
1951	105	97	109	30
1952	117	116	117	33
1953	114	102	120	30
1954	113	101	120	29
1955	114	101	120	29
1956	119	109	124	30
1957	----------	----------	----------	--------

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[1] Data for 1946 and later years are for fruit and vegetable products representative of those bought by urban families in 1952. For the years before 1946, the series were weighted by quantities of fruits and vegetables bought per family in 1935–39. Index numbers were computed by "linking" the two series at 1946. The dollar figures for the group, which are published quarterly in "The Marketing and Transportation Situation," can be converted to index numbers by dividing by the following 1947–49 averages: Retail cost, $184.68; farm value, $60.93; farm-retail spread, $123.75.

[2] The farm-retail spread was adjusted to include Government payments to processors in 1943–46.

TABLE 74.—*Fruits and vegetables, fresh: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57*[1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	99.09	42.35	56.74	43
1948	103.60	42.15	61.45	41
1949	109.05	44.24	64.81	41
1950	104.87	40.81	64.06	39
1951	109.23	42.85	66.38	39
1952	129.34	53.32	76.02	41
1953	121.48	44.40	77.08	37
1954	120.59	43.82	76.77	36
1955	121.24	44.26	76.98	37
1956	129.34	48.10	81.24	37
1957	--------	--------	--------	--------
1947				
January–March	93.00	40.63	52.37	44
April–June	102.90	44.45	58.45	43
July–September	100.30	43.01	57.29	43
October–December	100.17	41.30	58.87	41
1948				
January–March	103.26	43.85	59.41	42
April–June	110.10	44.63	65.47	41
July–September	103.73	42.50	61.23	41
October–December	97.30	37.61	59.69	39
1949				
January–March	109.95	46.37	63.58	42
April–June	119.09	51.95	67.14	44
July–September	106.81	40.55	66.26	38
October–December	100.36	38.11	62.25	38
1950				
January–March	103.03	44.00	59.03	43
April–June	110.82	43.38	67.44	39
July–September	106.98	39.83	67.15	37
October–December	98.67	36.03	62.64	37
1951				
January–March	107.71	43.45	64.26	40
April–June	108.67	41.04	67.63	38
July–September	106.86	40.64	66.22	38
October-December	113.68	46.25	67.43	41
1952				
January–March	119.18	50.69	68.49	43
April–June	137.31	56.01	81.30	41
July–September	135.19	55.02	80.17	41
October–December	125.67	51.54	74.13	41
1953				
January–March	124.41	51.22	73.19	41
April–June	129.50	46.89	82.61	36
July–September	120.48	41.13	79.35	34
October–December	111.52	38.36	73.16	34
1954				
January–March	114.40	39.40	75.00	34
April–June	126.16	46.27	79.89	37
July–Sept.	126.32	48.73	77.59	39
October–December	115.49	40.89	74.60	35
1955				
January–March	117.61	45.64	71.97	39
April–June	133.21	50.89	82.32	38
July–September	121.59	41.72	79.87	34
October–December	112.54	38.80	73.74	34
1956				
January–March	118.44	44.06	74.38	37
April–June	137.57	54.59	82.98	40
July–September	138.24	49.44	88.80	36
October–December	123.10	44.31	78.79	36
1957				
January–March	125.27	44.14	81.13	35
April–June	138.55	49.37	89.18	36
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for the fresh fruits and vegetables group is described in greater detail on pp. 89-91.

TABLE 75.—*Apples: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1935–57*[1]

Year and quarter	Retail price per pound	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1935	5.7	2.1	3.6	37
1936	5.6	2.1	3.5	38
1937	5.9	2.4	3.5	41
1938	4.6	1.7	2.9	37
1939	4.7	1.9	2.8	40
1940	5.0	1.9	3.1	38
1941	5.2	2.2	3.0	42
1942	6.6	2.9	3.7	44
1943	10.4	4.9	5.5	47
1944	10.8	5.9	4.9	55
1945	12.1	6.1	6.0	50
1946	12.9	7.1	5.8	55
1947	12.3	6.0	6.3	49
1948	11.4	4.8	6.6	42
1949	12.1	5.3	6.8	44
1950	11.6	4.8	6.8	41
1951	10.7	4.4	6.3	41
1952	14.7	6.1	8.6	41
1953	15.7	7.1	8.6	45
1954	15.3	6.9	8.4	45
1955	15.1	6.3	8.8	42
1956	15.1	6.3	8.8	42
1957	-------	-------	-------	-------
1947				
January–March	12.5	6.4	6.1	51
April–June	14.4	7.1	7.3	49
July–September	11.6	5.5	6.1	47
October–December	10.9	4.9	6.0	45
1948				
January–March	10.6	4.4	6.2	42
April–June	11.8	4.2	7.6	36
July–September	11.8	5.1	6.7	43
October–December	11.5	5.3	6.2	46
1949				
January–March	13.8	6.6	7.2	48
April–June	15.5	6.8	8.7	44
July–September	10.5	4.5	6.0	43
October–December	8.5	3.3	5.2	39
1950				
January–March	9.6	4.0	5.6	42
April–June	13.2	5.3	7.9	40
July–September	13.7	5.5	8.2	40
October–December	9.7	4.5	5.2	46
1951				
January–March	10.6	4.6	6.0	43
April–June	11.1	4.1	7.0	37
July–September	11.3	4.4	6.9	39
October–December	9.8	4.6	5.2	47
1952				
January–March	11.7	5.3	6.4	45
April–June	16.9	6.3	10.6	37
July–September	14.0	6.3	7.7	45
October–December	13.7	6.4	7.3	47
1953				
January–March	14.9	7.3	7.6	49
April–June	17.7	7.5	10.2	42
July–September	16.7	6.9	9.8	41
October–December	13.5	6.7	6.8	50
1954				
January–March	14.7	7.2	7.5	49
April–June	17.1	7.7	9.4	45
July–September	16.3	6.5	9.8	40
October–December	13.2	6.4	6.8	48
1955				
January–March	14.1	6.6	7.5	47
April–June	17.1	7.0	10.1	41
July–September	17.0	5.9	11.1	35
October–December	12.4	5.5	6.9	44
1956				
January–March	13.6	6.1	7.5	45
April–June	16.6	7.2	9.4	43
July–September	16.6	5.7	10.9	34
October–December	13.7	6.3	7.4	46
1957				
January–March	15.3	7.4	7.9	48
April–June	20.1	9.6	10.5	48
July–September	-------	-------	-------	-------
October–December	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh fruits is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.08 pounds of apples.

TABLE 76.—*Grapefruit: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56*[1]

Year	Retail price, each	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	10.1	1.9	8.2	19
1954	9.9	1.7	8.2	17
1955	10.0	1.7	8.3	17
1956	10.5	1.9	8.6	18
1957	-------	-------	-------	-------

[1] Data are based on 7-month averages; BLS retail prices are not available for June–October. For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh fruits is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.04 grapefruit for fresh consumption, based on equivalent returns per box at packinghouse door.

TABLE 77.—*Lemons: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56*[1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	19.9	5.9	14.0	30
1954	18.2	5.4	12.8	30
1955	18.0	5.1	12.9	28
1956	18.9	5.6	13.3	30
1957	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh fruits is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.04 pounds of lemons for fresh consumption, based on equivalent returns per box at packinghouse door.

TABLE 78.—*Oranges: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57* [1]

Year and quarter	Retail price per dozen	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	53.8	18.3	35.5	34
1920	64.0	21.8	42.2	34
1921	50.1	13.9	36.2	28
1922	58.1	21.2	36.9	36
1923	50.4	12.1	38.3	24
1924	45.3	12.3	33.0	27
1925	57.8	23.9	33.9	41
1926	52.3	17.4	34.9	33
1927	52.6	19.2	33.4	37
1928	59.4	25.3	34.1	43
1929	45.3	12.1	33.2	27
1930	57.8	24.7	33.1	43
1931	35.5	9.4	26.1	26
1932	30.9	8.2	22.7	27
1933	27.5	6.5	21.0	24
1934	32.3	10.0	22.3	31
1935	32.0	8.8	23.2	28
1936	33.6	10.5	23.1	31
1937	38.9	14.7	24.2	38
1938	26.7	5.7	21.0	21
1939	28.9	6.1	22.8	21
1940	29.1	7.4	21.7	25
1941	31.0	9.6	21.4	31
1942	35.7	13.2	22.5	37
1943	44.3	18.2	26.1	41
1944	46.0	19.2	26.8	42
1945	48.5	19.6	28.9	40
1946	50.0	20.5	29.5	41
1947	43.4	11.6	31.8	27
1948	44.7	11.8	32.9	26
1949	51.8	14.5	37.3	28
1950	49.3	16.9	32.4	34
1951	48.8	14.9	33.9	31
1952	50.6	13.7	36.9	27
1953	49.0	12.7	36.3	26
1954	55.4	18.1	37.3	33
1955	52.5	16.6	35.9	32
1956	58.2	19.7	38.5	34
1957	--------	--------	--------	--------
1947				
January–March	39.7	11.5	28.2	29
April–June	43.5	11.9	31.6	27
July–September	47.8	14.0	33.8	29
October–December	42.7	8.9	33.8	21
1948				
January–March	39.0	10.0	29.0	26
April–June	42.1	10.6	31.5	25
July–September	50.8	16.2	34.6	32
October–December	46.8	10.5	36.3	22
1949				
January-March	48.1	11.9	36.2	25
April–June	54.3	20.8	33.5	38
July–September	56.6	13.6	43.0	24
October–December	48.1	11.9	36.2	25
1950				
January–March	48.1	19.5	28.6	41
April–June	48.5	17.1	31.4	35
July–September	50.0	16.1	33.9	32
October–December	50.4	14.9	35.5	30
1951				
January–March	46.8	14.7	32.1	31
April–June	46.4	14.4	32.0	31
July–September	51.6	17.1	34.5	33
October–December	50.2	13.4	36.8	27
1952				
January–March	45.4	12.0	33.4	26
April–June	46.9	12.5	34.4	27
July–September	55.5	16.0	39.5	29
October–December	54.6	14.3	40.3	26
1953				
January-March	44.9	12.3	32.6	27
April–June	49.5	13.7	35.8	28
July–September	52.3	12.0	40.3	23
October–December	49.3	12.7	36.6	26
1954				
January–March	46.9	12.7	34.2	27
April–June	52.5	19.0	33.5	36
July–September	65.6	27.8	37.8	42
October–December	56.5	13.1	43.4	23
1955				
January–March	46.0	14.3	31.7	31
April–June	51.4	17.4	34.0	34
July–September	57.1	18.7	38.4	33
October–December	55.4	16.0	39.4	29
1956				
January–March	49.9	17.1	32.8	34
April–June	54.8	21.3	33.5	39
July–September	66.0	21.6	44.4	33
October–December	61.9	18.8	43.1	30
1957				
January–March	54.5	17.7	36.8	32
April–June	54.9	17.0	37.9	31
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh fruits is described in greater detail on pp. 89-91.

[2] Payment to farmer for 1.04 dozen oranges for fresh consumption, based on equivalent returns per box at packing-house door.

TABLE 79.—*Vegetables, fresh: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	50.01	22.14	27.87	44
1948	55.09	24.32	30.77	44
1949	54.42	22.45	31.97	41
1950	51.26	18.92	32.34	37
1951	58.17	23.35	34.82	40
1952	70.69	31.22	39.47	44
1953	61.27	21.88	39.39	36
1954	58.88	20.23	38.65	34
1955	62.75	21.84	40.91	35
1956	68.17	24.59	43.58	36
1957				
1947				
January–March	45.76	19.51	26.25	43
April–June	50.51	22.05	28.46	44
July–September	50.16	22.00	28.16	44
October–December	53.62	25.00	28.62	47
1948				
January–March	59.31	27.98	31.33	47
April–June	62.51	28.59	33.92	46
July–September	51.17	21.34	29.83	42
October–December	47.37	19.39	27.98	41
1949				
January–March	55.06	24.12	30.94	44
April–June	56.86	23.13	33.73	41
July–September	52.65	21.32	31.33	40
October–December	53.10	21.24	31.86	40
1950				
January–March	53.42	21.89	31.53	41
April–June	54.24	19.99	34.25	37
July–September	48.77	17.27	31.50	35
October–December	48.59	16.52	32.07	34
1951				
January–March	58.10	23.57	34.53	41
April–June	58.07	22.58	35.49	39
July–September	53.19	19.98	33.21	38
October–December	63.30	27.25	36.05	43
1952				
January–March	68.30	31.07	37.23	45
April–June	76.84	34.32	42.52	45
July–September	70.88	31.10	39.78	44
October–December	66.74	28.37	38.37	43
1953				
January–March	68.34	27.61	40.73	40
April–June	64.27	22.27	42.00	35
July–September	57.05	20.03	37.02	35
October–December	55.40	17.61	37.79	32
1954				
January–March	57.65	18.21	39.44	32
April–June	60.29	21.03	39.26	35
July–September	59.12	21.28	37.84	36
October–December	58.46	20.41	38.05	35
1955				
January–March	64.52	24.16	40.36	37
April–June	70.04	25.45	44.59	36
July–September	58.09	19.10	38.99	33
October–December	58.36	18.63	39.73	32
1956				
January–March	65.18	22.43	42.75	34
April–June	73.64	28.41	45.23	39
July–September	71.16	26.12	45.04	37
October–December	62.72	21.41	41.31	34
1957				
January–March	66.19	19.91	46.28	30
April–June	69.82	21.04	48.78	30
July–September				
October–December				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for the fresh vegetables group is described in greater detail on pp. 89-91.

TABLE 80.—*Beans, green: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1935–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1935	12.7	5.3	7.4	42
1936	11.5	4.4	7.1	38
1937	12.5	5.5	7.0	44
1938	10.2	3.2	7.0	31
1939	10.3	3.9	6.4	38
1940	11.5	5.3	6.2	46
1941	13.2	6.2	7.0	47
1942	14.9	7.0	7.9	47
1943	18.7	9.2	9.5	49
1944	18.7	9.0	9.7	48
1945	19.6	9.6	10.0	49
1946	19.6	8.9	10.7	45
1947	20.9	9.4	11.5	45
1948	21.6	9.6	12.0	44
1949	20.7	9.0	11.7	43
1950	21.7	10.0	11.7	46
1951	22.3	9.7	12.6	43
1952	23.7	11.0	12.7	46
1953	23.9	10.9	13.0	46
1954	22.4	9.4	13.0	42
1955	22.0	9.1	12.9	41
1956	25.0	11.3	13.7	45
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89-91.

[2] Payment to farmer for 1.09 pounds of snap beans for fresh market.

TABLE 81.—*Cabbage: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1928–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1928	5.0	1.4	3.6	28
1929	5.1	1.3	3.8	25
1930	5.5	1.5	4.0	27
1931	3.8	.7	3.1	18
1932	4.0	1.0	3.0	25
1933	3.9	1.1	2.8	28
1934	3.4	.6	2.8	18
1935	3.9	1.1	2.8	28
1936	4.3	1.1	3.2	26
1937	3.7	.8	2.9	22
1938	3.5	.6	2.9	17
1939	3.6	.9	2.7	25
1940	3.4	.7	2.7	21
1941	4.2	1.2	3.0	29
1942	4.3	1.1	3.2	26
1943	7.1	2.9	4.2	41
1944	5.3	2.0	3.3	38
1945	6.1	1.7	4.4	28
1946	5.9	1.7	4.2	29
1947	7.3	2.4	4.9	33
1948	6.6	1.6	5.0	24
1949	6.7	1.8	4.9	27
1950	5.9	1.3	4.6	22
1951	8.6	3.1	5.5	36
1952	9.4	3.7	5.7	39
1953	7.2	1.8	5.4	25
1954	6.8	1.7	5.1	25
1955	8.3	2.6	5.7	31
1956	7.9	1.8	6.1	23
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.10 pounds of cabbage for fresh market.

TABLE 82.—*Carrots: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1935–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1935	5.3	1.7	3.6	32
1936	5.2	1.5	3.7	29
1937	5.8	1.7	4.1	29
1938	5.3	1.5	3.8	28
1939	5.3	1.4	3.9	26
1940	5.4	1.6	3.8	30
1941	5.8	1.7	4.1	29
1942	7.4	2.4	5.0	32
1943	8.8	3.1	5.6	35
1944	8.8	3.0	5.8	34
1945	8.8	3.0	5.8	34
1946	9.0	3.0	6.0	33
1947	10.8	4.2	6.6	39
1948	12.1	4.4	7.7	36
1949	10.5	3.4	7.1	32
1950	10.0	3.0	7.0	30
1951	12.6	4.3	8.3	34
1952	12.2	3.7	8.5	30
1953	12.2	4.0	8.2	33
1954	13.4	4.1	9.3	31
1955	13.9	4.2	9.7	30
1956	13.7	3.5	10.2	26
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payments to farmer for 1.06 pounds of carrots for fresh market.

TABLE 83.—*Celery: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	14.6	4.2	10.4	29
1954	13.5	3.7	9.8	27
1955	14.9	4.6	10.3	31
1956	13.5	3.9	9.6	29
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.11 pounds of celery.

TABLE 84.—*Lettuce: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1935–57* [1]

Year and quarter	Retail price per head	Farm value [2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1935	8.9	2.7	6.2	30
1936	8.8	2.8	6.0	32
1937	8.9	3.1	5.8	35
1938	8.9	3.0	5.9	34
1939	8.5	2.5	6.0	29
1940	8.4	2.7	5.7	32
1941	9.5	3.3	6.2	35
1942	12.0	5.0	7.0	42
1943	14.0	6.0	8.0	43
1944	11.5	4.9	6.6	43
1945	12.1	5.5	6.6	45
1946	11.6	4.8	6.8	41
1947	13.6	6.2	7.4	46
1948	13.6	5.6	8.0	41
1949	16.3	7.1	9.2	44
1950	13.9	5.3	8.6	38
1951	16.1	6.7	9.4	42
1952	15.3	6.0	9.3	39
1953	15.1	5.8	9.3	38
1954	15.3	5.8	9.5	38
1955	16.4	6.4	10.0	39
1956	16.4	5.8	10.6	35
1957	--------	--------	--------	--------
1947				
January–March	13.9	6.2	7.7	45
April–June	12.7	6.2	6.5	49
July–September	13.9	6.5	7.4	47
October–December	13.8	5.9	7.9	43
1948				
January–March	13.5	5.7	7.8	42
April–June	14.4	6.5	7.9	45
July–September	13.1	5.3	7.8	40
October–December	13.5	4.8	8.7	36
1949				
January–March	17.3	8.5	8.8	49
April–June	14.8	5.7	9.1	39
July–September	17.1	7.5	9.6	44
October–December	16.0	6.7	9.3	42
1950				
January–March	15.1	6.4	8.7	42
April–June	14.2	5.5	8.7	39
July–September	12.4	4.2	8.2	34
October–December	13.9	5.0	8.9	36
1951				
January–March	13.9	4.9	9.0	35
April–June	16.7	7.4	9.3	44
July–September	14.9	5.9	9.0	40
October–December	19.1	8.7	10.4	46
1952				
January–March	15.6	6.3	9.3	40
April–June	15.2	6.1	9.1	40
July–September	14.8	5.5	9.3	37
October–December	15.6	5.9	9.7	38
1953				
January–March	14.7	5.0	9.7	34
April–June	14.0	5.3	8.7	38
July–September	16.3	7.2	9.1	44
October–December	15.6	5.5	10.1	35
1954				
January–March	15.0	6.0	9.0	40
April–June	15.7	6.0	9.7	38
July–September	13.7	4.4	9.3	32
October–December	16.8	6.8	10.0	40
1955				
January–March	17.3	7.3	10.0	42
April–June	15.4	5.6	9.8	36
July–September	17.2	7.3	9.9	42
October–December	15.7	5.6	10.1	36
1956				
January–March	14.0	4.6	9.4	33
April–June	15.7	5.5	10.2	35
July–September	14.8	4.2	10.6	28
October–December	20.9	9.1	11.8	44
1957				
January–March	16.3	5.2	11.1	32
April–June	16.3	5.8	10.5	36
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.41 pounds of lettuce for fresh market.

TABLE 85.—*Onions: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1928–57*[1]

Year and quarter	Retail price per pound	Farm value[2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1928	6.2	2.3	3.9	37
1929	6.7	2.2	4.5	33
1930	5.0	1.2	3.8	24
1931	4.2	1.5	2.7	36
1932	5.0	1.9	3.1	38
1933	3.6	1.1	2.5	31
1934	4.4	1.4	3.0	32
1935	5.1	1.9	3.2	37
1936	3.8	1.0	2.8	26
1937	4.1	1.3	2.8	32
1938	4.3	1.3	3.0	30
1939	3.8	1.0	2.8	26
1940	4.5	1.6	2.9	36
1941	5.0	2.0	3.0	40
1942	5.9	2.5	3.4	42
1943	7.5	3.5	4.0	47
1944	6.9	3.4	3.5	49
1945	6.9	3.3	3.6	48
1946	6.9	2.9	4.0	42
1947	7.3	3.1	4.2	42
1948	10.6	5.1	5.5	48
1949	7.4	3.0	4.4	41
1950	6.8	2.1	4.7	31
1951	7.9	2.9	5.0	37
1952	11.3	5.3	6.0	47
1953	8.6	2.9	5.7	34
1954	7.3	2.1	5.2	29
1955	8.1	2.8	5.3	35
1956	9.5	3.3	6.2	35
1957	--------	--------	--------	--------
1947				
January–March	5.0	1.7	3.3	34
April–June	7.1	2.9	4.2	41
July–September	7.8	3.0	4.8	38
October–December	9.4	4.7	4.7	50
1948				
January–March	14.3	9.0	5.3	63
April–June	13.7	6.3	7.4	46
July–September	8.0	3.0	5.0	38
October–December	6.3	2.1	4.2	33
1949				
January–March	6.3	1.9	4.4	30
April–June	7.5	3.4	4.1	45
July–September	7.2	2.8	4.4	39
October–December	8.5	3.9	4.6	46
1950				
January–March	7.7	2.7	5.0	35
April–June	6.8	2.2	4.6	32
July–September	7.2	2.1	5.1	29
October–December	5.4	1.2	4.2	22
1951				
January–March	6.8	2.2	4.6	32
April–June	9.2	4.1	5.1	45
July–September	7.6	2.5	5.1	33
October–December	8.0	2.9	5.1	36
1952				
January–March	11.1	5.8	5.3	52
April–June	14.2	6.9	7.3	49
July–September	9.7	3.9	5.8	40
October–December	10.3	4.7	5.6	46
1953				
January–March	12.2	6.2	6.0	51
April–June	8.7	2.3	6.4	26
July–September	7.3	1.7	5.6	23
October–December	6.2	1.3	4.9	21
1954				
January–March	6.1	1.1	5.0	18
April–June	7.6	2.6	5.0	34
July–September	8.0	2.7	5.3	34
October–December	7.5	2.1	5.4	28
1955				
January–March	7.6	2.1	5.5	28
April–June	8.5	3.2	5.3	38
July–September	8.1	2.5	5.6	31
October–December	8.2	2.7	5.5	33
1956				
January–March	8.0	2.2	5.8	28
April–June	9.9	4.2	5.7	42
July–September	12.7	5.1	7.6	40
October–December	7.4	1.8	5.6	24
1957				
January–March	8.3	2.7	5.6	33
April–June	11.7	4.8	6.9	41
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.06 pounds of onions for fresh market.

TABLE 86.—*Potatoes: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–57*[1]

Year and quarter	Retail price per 10 pounds	Farm value[2]	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	38.2	23.8	14.4	62
1920	62.9	38.6	24.3	61
1921	30.8	17.0	13.8	55
1922	28.6	14.9	13.7	52
1923	29.2	15.3	13.9	52
1924	27.1	13.6	13.5	50
1925	34.9	19.5	15.4	56
1926	48.1	29.6	18.5	62
1927	37.2	20.2	17.0	54
1928	26.8	12.3	14.5	46
1929	31.6	16.5	15.1	52
1930	35.2	19.4	15.8	55
1931	22.9	10.3	12.6	45
1932	16.4	6.9	9.5	42
1933	22.6	11.6	11.0	51
1934	22.7	10.2	12.5	45
1935	18.5	7.7	10.8	42
1936	30.9	17.0	13.9	55
1937	27.1	13.2	13.9	49
1938	20.7	8.6	12.1	42
1939	24.0	11.3	12.7	47
1940	23.1	10.8	12.3	47
1941	22.7	10.3	12.4	45
1942	33.2	17.9	15.3	54
1943	44.2	23.0	21.2	52
1944	45.1	23.1	22.0	51
1945	47.8	25.5	22.3	53
1946	45.4	22.1	23.3	49
1947	48.7	24.4	24.3	50
1948	54.1	27.7	26.4	51
1949	53.0	24.8	28.2	47
1950	44.8	17.7	27.1	40
1951	49.2	20.8	28.4	42
1952	73.7	37.9	35.8	51
1953	53.2	18.5	34.7	35
1954	52.0	17.8	34.2	34
1955	56.4	19.4	37.0	34
1956	67.7	26.1	41.6	39
1957	--------	--------	--------	--------
1947				
January–March	42.1	20.2	21.9	48
April–June	51.9	25.3	26.6	49
July–September	51.8	25.4	26.4	49
October–December	49.1	26.6	22.5	54
1948				
January–March	56.3	30.9	25.4	55
April–June	60.2	30.4	29.8	50
July–September	52.8	25.7	27.1	49
October–December	47.1	23.9	23.2	51
1949				
January–March	54.3	27.5	26.8	51
April–June	60.4	27.7	32.7	46
July–September	51.6	23.0	28.6	45
October–December	45.6	21.0	24.6	46
1950				
January–March	45.7	20.6	25.1	45
April–June	48.9	19.4	29.5	40
July–September	46.7	18.1	28.6	39
October–December	37.7	12.7	25.0	34
1951				
January–March	41.6	15.4	26.2	37
April–June	48.5	19.8	28.7	41
July–September	49.7	20.2	29.5	41
October–December	57.2	27.7	29.5	48
1952				
January–March	66.1	34.8	31.3	53
April–June	77.9	40.9	37.0	53
July–September	80.7	42.0	38.7	52
October–December	70.1	34.1	36.0	49
1953				
January–March	64.1	28.0	36.1	44
April–June	54.9	17.4	37.5	32
July–September	48.7	15.3	33.4	31
October–December	45.2	13.2	32.0	29
1954				
January–March	43.9	10.6	33.3	24
April–June	51.8	19.4	32.4	37
July–September	61.3	23.4	37.9	38
October–December	51.2	18.0	33.2	35
1955				
January–March	53.7	20.2	33.5	38
April–June	74.4	30.3	44.1	41
July–September	51.0	14.0	37.0	27
October–December	46.5	13.2	33.3	28
1956				
January–March	54.7	20.2	34.5	37
April–June	79.6	36.5	43.1	46
July–September	83.7	32.5	51.2	39
October–December	52.7	15.2	37.5	29
1957				
January–March	55.9	15.0	40.9	27
April–June	57.4	13.4	44.0	23
July–September	--------	--------	--------	--------
October–December	--------	--------	--------	--------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 10.42 pounds of potatoes.

TABLE 87.—*Sweetpotatoes: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1935–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1935	4.4	1.5	2.9	34
1936	4.8	1.7	3.1	35
1937	5.2	1.9	3.3	37
1938	4.4	1.6	2.8	36
1939	4.7	1.5	3.2	32
1940	4.9	1.8	3.1	37
1941	5.3	2.0	3.3	38
1942	6.0	2.2	3.8	37
1943	12.1	4.6	7.5	38
1944	10.7	4.4	6.3	41
1945	9.8	4.2	5.6	43
1946	11.2	4.8	6.4	43
1947	10.7	4.6	6.1	43
1948	11.5	4.7	6.8	41
1949	12.7	5.0	7.7	39
1950	10.5	4.0	6.5	38
1951	12.2	4.7	7.5	39
1952	18.7	7.9	10.8	42
1953	16.6	7.0	9.6	42
1954	13.6	5.1	8.5	38
1955	13.8	5.2	8.6	38
1956	12.8	4.4	8.4	34
1957	----------	----------	----------	----------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.12 pounds of sweetpotatoes for fresh market.

TABLE 88.—*Tomatoes, fresh: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1950–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1950	24.4	9.3	15.1	38
1951	27.3	11.8	15.5	43
1952	27.1	11.0	16.1	41
1953	27.5	9.8	17.7	36
1954	26.4	9.3	17.1	35
1955	27.4	8.9	18.5	32
1956	29.5	10.8	18.7	37
1957	----------	----------	----------	----------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for fresh vegetables is described in greater detail on pp. 89–91.

[2] Payment to farmer for 1.18 pounds of tomatoes for fresh market.

TABLE 89.—*Fruits and vegetables, processed: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1953–56* [1]

Year	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1953	89.09	17.99	71.10	20
1954	89.00	17.73	71.27	20
1955	88.84	17.43	71.41	20
1956	90.47	18.61	71.86	21
1957	----------	----------	----------	----------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for the processed fruits and vegetables group is described in greater detail on pp. 91–93.

TABLE 90.—*Orange juice, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per 46-ounce can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	33.9	9.1	24.8	27
1954	34.9	9.3	25.6	27
1955	33.7	8.5	25.2	25
1956	37.5	11.2	26.3	30
1957	----------	----------	----------	----------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 5.88 pounds of Florida oranges for canning, based on reports of Florida Canners' Association of the average price paid for oranges for canned orange juice.

TABLE 91.—*Peaches, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1934–56* [1]

Year	Retail price per No. 2½ can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1934	18.6	2.2	16.4	12
1935	19.7	2.8	16.9	14
1936	18.4	2.7	15.7	15
1937	19.6	3.2	16.4	16
1938	18.9	2.7	16.2	14
1939	17.0	1.3	15.7	8
1940	17.0	2.0	15.0	12
1941	18.6	2.9	15.7	16
1942	23.6	5.0	18.6	21
1943	26.4	5.8	20.6	22
1944	27.5	6.0	21.5	22
1945	27.6	5.9	21.7	21
1946	29.3	6.0	23.3	20
1947	32.0	5.5	26.5	17
1948	31.5	5.2	26.3	17
1949	31.0	5.2	25.8	17
1950	28.7	4.5	24.2	16
1951	33.7	6.3	27.4	19
1952	33.8	6.8	27.0	20
1953	33.8	5.8	28.0	17
1954	32.8	5.2	27.6	16
1955	34.1	6.1	28.0	18
1956	34.8	7.2	27.6	21
1957				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits is described in greater detail on pp. 91–93.

[2] Payment to farmer for 1.89 pounds of Calif. cling peaches for canning.

TABLE 92.—*Beans with pork, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per 16-ounce can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	14.3	2.8	11.5	20
1954	14.5	3.0	11.5	21
1955	14.9	3.0	11.9	20
1956	14.6	2.2	12.4	15
1957				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 0.35 pound of Michigan dry beans.

TABLE 93.—*Corn, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per No. 303 can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	16.7	2.2	14.5	13
1920	16.1	2.3	13.8	14
1921	14.2	2.1	12.1	15
1922	13.5	1.6	11.9	12
1923	13.4	1.4	12.0	10
1924	14.0	1.7	12.3	12
1925	15.3	1.9	13.4	12
1926	14.3	1.8	12.5	13
1927	13.7	1.6	12.1	12
1928	13.9	1.5	12.4	11
1929	13.8	1.6	12.2	12
1930	13.3	1.6	11.7	12
1931	11.6	1.5	10.1	13
1932	9.2	1.2	8.0	13
1933	8.7	1.0	7.7	11
1934	10.0	1.0	9.0	10
1935	11.0	1.1	9.9	10
1936	10.5	1.2	9.3	11
1937	11.2	1.3	9.9	12
1938	10.1	1.4	8.7	14
1939	9.2	1.2	8.0	13
1940	9.2	1.1	8.1	12
1941	9.9	1.1	8.8	11
1942	11.3	1.4	9.9	12
1943	12.3	1.9	[3] 10.4	15
1944	12.6	2.3	[3] 10.3	18
1945	12.9	2.4	[3] 10.5	19
1946	13.4	2.4	[3] 11.0	18
1947	16.0	2.5	13.5	16
1948	17.2	2.7	14.5	16
1949	16.9	2.8	14.1	17
1950	15.4	2.4	13.0	16
1951	17.8	2.5	15.3	14
1952	18.8	2.9	15.9	15
1953	19.0	3.0	16.0	16
1954	18.2	2.8	15.4	15
1955	17.1	2.5	14.6	15
1956	17.9	2.4	15.5	13
1957				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for canned vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 2.49 pounds of sweet corn for processing.

[3] Farm-retail spread plus Government payments to processors was: 1943, 10.6 cents; 1944, 10.8 cents; 1945, 11.0 cents; and 1946, 11.4 cents.

TABLE 94.—*Peas, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per No. 303 can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	15.9	2.1	13.8	13
1920	15.9	2.2	13.7	14
1921	14.8	2.2	12.6	15
1922	14.6	2.0	12.6	14
1923	14.6	2.0	12.6	14
1924	15.2	2.1	13.1	14
1925	15.2	2.0	13.2	13
1926	14.4	2.0	12.4	14
1927	14.0	2.0	12.0	14
1928	14.1	2.0	12.1	14
1929	14.0	2.0	12.0	14
1930	13.6	2.0	11.6	15
1931	11.9	1.9	10.0	16
1932	10.8	1.7	9.1	16
1933	10.9	1.5	9.4	14
1934	14.1	1.6	12.5	11
1935	14.5	1.8	12.7	12
1936	13.7	1.8	11.9	13
1937	13.8	1.8	12.0	13
1938	12.8	1.8	11.0	14
1939	11.6	1.7	9.9	15
1940	11.6	1.6	10.0	14
1941	11.6	1.7	9.9	15
1942	12.8	1.9	10.9	15
1943	16.2	2.5	[3] 13.7	15
1944	18.9	2.8	[3] 16.1	15
1945	18.7	2.9	[3] 15.8	16
1946	20.2	2.9	[3] 17.3	14
1947	22.1	2.9	19.2	13
1948	21.2	3.0	18.2	14
1949	21.0	3.0	18.0	14
1950	21.1	2.9	18.2	14
1951	21.6	2.9	18.7	13
1952	20.9	3.0	17.9	14
1953	21.3	3.2	18.1	15
1954	21.4	3.2	18.2	15
1955	21.5	3.2	18.3	15
1956	21.5	3.1	18.4	14
1957				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for canned vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 0.69 pound of peas for canning.

[3] Farm-retail spread plus Government payments to processors was: 1943, 14.0 cents; 1944, 17.1 cents; 1945, 17.2 cents; and 1946, 18.0 cents.

TABLE 95.—*Tomatoes, canned: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per No. 303 can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	13.3	1.9	11.4	14
1920	12.1	1.7	10.4	14
1921	9.9	1.6	8.3	16
1922	10.9	1.1	9.8	10
1923	10.6	1.2	9.4	11
1924	10.8	1.3	9.5	12
1925	11.2	1.4	9.8	12
1926	10.0	1.4	8.6	14
1927	10.1	1.3	8.8	13
1928	9.9	1.3	8.6	13
1929	10.8	1.3	9.5	12
1930	10.2	1.4	8.8	14
1931	8.6	1.3	7.3	15
1932	7.9	1.0	6.9	13
1933	7.6	1.0	6.6	13
1934	8.9	1.1	7.8	12
1935	8.6	1.1	7.5	13
1936	8.0	1.1	6.9	14
1937	7.9	1.2	6.7	15
1938	7.4	1.2	6.2	16
1939	7.2	1.1	6.1	15
1940	7.1	1.1	6.0	15
1941	7.6	1.2	6.4	16
1942	9.8	1.5	8.3	15
1943	10.6	2.0	[3] 8.6	19
1944	10.1	2.4	[3] 7.7	24
1945	10.2	2.5	[3] 7.7	25
1946	12.6	2.6	[3] 10.0	21
1947	16.2	2.8	13.4	17
1948	13.8	2.6	11.2	19
1949	12.7	2.5	10.2	20
1950	12.4	2.2	10.2	18
1951	15.8	2.5	13.3	16
1952	14.7	2.8	11.9	19
1953	14.8	2.6	12.2	18
1954	14.6	2.4	12.2	16
1955	15.1	2.2	12.9	15
1956	15.2	2.3	12.9	15
1957				

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for canned vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 1.84 pounds of tomatoes for processing.

[3] Farm-retail spread plus Government payments to processors was: 1943, 8.8 cents; 1944, 8.3 cents; 1945, 8.7 cents; and 1946, 10.9 cents.

TABLE 96.—*Orange juice concentrate, frozen: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1951–56* [1]

Year	Retail price per 6-ounce can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1951	21.1	7.4	13.7	35
1952	16.2	4.2	12.0	26
1953	19.6	5.7	13.9	29
1954	18.6	5.4	13.2	29
1955	18.3	5.6	12.7	31
1956	19.6	7.4	12.2	38
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 91-93.

[2] Payment to farmer for 3.05 pounds of Florida oranges for freezing, based on reports of Florida Canners' Association of the average price paid for oranges for frozen orange concentrate.

TABLE 97.—*Strawberries, frozen: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1951–56* [1]

Year	Retail price per 10-ounce package	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1951	36.3	9.6	26.7	26
1952	33.3	8.3	25.0	25
1953	31.3	8.2	23.1	26
1954	30.8	8.2	22.6	27
1955	30.6	8.2	22.4	27
1956	29.7	8.0	21.7	27
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 91-93

[2] Payment to farmer for 0.51 pound of strawberries for processing.

TABLE 98.—*Beans, green, frozen: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per 10-ounce package	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	24.2	4.8	19.4	20
1954	24.4	5.0	19.4	20
1955	24.1	5.0	19.1	21
1956	23.1	4.8	18.3	21
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 65-76.

[2] Payment to farmer for 0.79 pound of beans for freezing.

TABLE 99.—*Peas, frozen: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1951–56* [1]

Year	Retail price per 10-ounce package	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1951	20.5	3.2	17.3	16
1952	20.0	3.3	16.7	16
1953	19.1	3.2	15.9	17
1954	19.3	3.3	16.0	17
1955	20.2	3.2	17.0	16
1956	21.0	3.2	17.8	15
1957				

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for processed fruits and vegetables is described in greater detail on pp. 65-76.

[2] Payment to farmer for 0.70 pound of peas for freezing.

TABLE 100.—*Beans, dried (navy): Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	12.5	7.0	5.5	56
1920	11.3	5.9	5.4	52
1921	8.1	3.5	4.6	43
1922	9.8	5.9	3.9	60
1923	10.9	6.1	4.8	56
1924	9.9	4.7	5.2	47
1925	10.3	5.0	5.3	49
1926	9.4	4.0	5.4	43
1927	9.4	4.7	4.7	50
1928	11.8	7.6	4.2	64
1929	14.0	8.3	5.7	59
1930	11.7	5.4	6.3	46
1931	8.1	3.1	5.0	38
1932	5.2	1.4	3.8	27
1933	5.3	1.9	3.4	36
1934	6.1	2.4	3.7	39
1935	6.2	2.4	3.8	39
1936	6.7	3.5	3.2	52
1937	9.6	5.1	4.5	53
1938	6.3	2.3	4.0	37
1939	6.2	2.2	4.0	35
1940	6.6	2.8	3.8	42
1941	7.4	4.1	3.3	55
1942	9.0	4.5	4.5	50
1943	10.1	5.4	[3] 4.7	53
1044	10.8	6.0	[3] 4.8	56
1945	11.4	6.1	[3] 5.3	54
1946	14.0	7.6	[3] 6.4	54
1947	21.3	12.3	9.0	58
1948	22.0	10.1	11.9	46
1949	16.4	6.8	9.6	41
1950	15.4	6.6	8.8	43
1951	16.7	6.4	10.3	38
1952	16.1	7.4	8.7	46
1953	17.0	8.0	9.0	47
1954	17.6	8.6	9.0	49
1955	18.3	8.7	9.6	48
1956	16.2	6.4	9.8	40
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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dried fruits and vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 1 pound of pea beans, based on average price received by Michigan growers for dry edible beans.

[3] Farm-retail spreads plus Government payments to processors was: 1943, 4.9 cents; 1944, 5.4 cents; 1945, 5.9 cents; and 1946, 6.8 cents.

TABLE 101.—*Prunes, dried: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per pound	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	24.6	9.2	15.4	37
1920	27.5	11.8	15.7	43
1921	19.4	8.5	10.9	44
1922	19.7	7.4	12.3	38
1923	18.7	7.1	11.6	38
1924	17.4	5.2	12.2	30
1925	17.1	5.7	11.4	33
1926	16.8	5.8	11.0	35
1927	15.1	4.9	10.2	32
1928	13.5	3.9	9.6	29
1929	15.3	5.2	10.1	34
1930	16.1	6.3	9.8	39
1931	11.7	3.0	8.7	26
1932	9.3	2.4	6.9	26
1933	9.4	2.8	6.6	30
1934	11.4	3.8	7.6	33
1935	11.1	3.0	8.1	27
1936	9.9	2.9	7.0	29
1937	10.5	3.6	6.9	34
1938	9.1	2.6	6.5	29
1939	8.9	2.2	6.7	25
1940	9.7	3.1	6.6	32
1941	9.8	2.8	7.0	29
1942	13.3	4.1	9.2	31
1943	16.6	7.4	[3] 9.2	45
1944	17.0	9.5	[3] 7.5	56
1945	17.5	10.5	[3] 7.0	60
1946	19.1	10.5	[3] 8.6	55
1947	24.8	11.8	13.0	48
1948	21.4	7.2	14.2	34
1949	23.1	7.5	15.6	32
1950	24.6	8.6	16.0	35
1951	27.4	11.4	16.0	42
1952	26.9	8.7	18.2	32
1953	29.1	11.2	17.9	38
1954	30.8	10.8	20.0	35
1955	33.7	10.9	22.8	32
1956	35.6	12.9	22.7	36
1957	----------	----------	----------	----------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for dried fruits and vegetables is described in greater detail on pp. 91–93.

[2] Payment to farmer for 0.97 pound of dried prunes.

[3] Farm-retail spread plus Government payments to processors was: 1943, 9.5 cents; 1944, 10.1 cents; 1945, 10.6 cents; and 1946, 11.2 cents.

TABLE 102.—*Fats and oils: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947–57* [1]

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	*Dollars*	*Dollars*	*Percent*
1947	56.36	23.68	32.68	42
1948	56.52	23.46	33.06	42
1949	43.76	12.38	31.38	28
1950	42.30	14.97	27.33	35
1951	48.99	19.28	29.71	39
1952	41.48	13.36	28.12	32
1953	41.90	15.01	26.89	36
1954	44.27	16.06	28.21	36
1955	42.84	13.29	29.55	31
1956	43.44	14.50	28.94	33
1957	----	----	----	----
1947				
January–March	58.22	26.62	31.60	46
April–June	59.25	23.43	35.82	40
July–September	52.64	19.16	33.48	36
October–December	55.34	25.52	29.82	46
1948				
January–March	57.26	24.90	32.36	43
April–June	56.93	27.64	29.29	49
July–September	57.48	22.94	34.54	40
October–December	54.43	18.35	36.08	34
1949				
January–March	48.37	14.43	33.94	30
April–June	43.19	12.21	30.98	28
July–September	42.31	11.87	30.44	28
October–December	41.19	11.03	30.16	27
1950				
January–March	39.50	12.27	27.23	31
April–June	40.61	13.71	26.90	34
July–September	43.96	15.57	28.39	35
October–December	45.12	18.33	26.79	41
1951				
January–March	51.07	22.50	28.57	44
April–June	51.36	21.69	29.67	42
July–September	47.55	17.09	30.46	36
October–December	45.97	15.82	30.15	34
1952				
January–March	43.44	14.05	29.39	32
April–June	40.74	12.43	28.31	31
July–September	40.92	13.29	27.63	32
October–December	40.83	13.68	27.15	34
1953				
January–March	40.62	14.73	25.89	36
April–June	41.29	15.16	26.13	37
July–September	42.38	14.27	28.11	34
October–December	43.33	15.89	27.44	37
1954				
January–March	43.90	15.81	28.09	36
April–June	44.29	17.17	27.12	39
July–September	44.79	16.30	28.49	36
October–December	44.10	14.94	29.16	34
1955				
January–March	43.30	14.20	29.10	33
April–June	42.75	14.18	28.57	33
July–September	42.82	12.62	30.20	29
October–December	42.50	12.15	30.35	29
1956				
January–March	41.77	13.82	27.95	33
April–June	43.67	15.83	27.84	36
July–September	44.07	13.56	30.51	31
October–December	44.25	14.79	29.46	33
1957				
January–March	45.70	15.68	30.02	34
April–June	45.52	14.80	30.72	33
July–September	----	----	----	----
October–December	----	----	----	----

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for fats and oils is described in greater detail on pp. 93-94.

TABLE 103.—*Margarine (colored): Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1951–56* [1]

Year	Retail price per pound	Farm value ([2])	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1951	34.7	11.8	22.9	34
1952	29.4	8.4	21.0	29
1953	29.4	9.4	20.0	32
1954	29.9	9.7	20.2	32
1955	28.9	8.2	20.7	28
1956	28.9	9.4	19.5	33
1957	----	----	----	----

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for margarine is described in greater detail on pp. 93–94.

[2] Payment to farmers for imputed value of 0.85 pound of cottonseed oil and soybean oil and 0.168 pound of fluid skim milk.

TABLE 104.—*Peanut butter: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per pound	Farm value ([2])	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	49.0	19.5	29.5	40
1954	49.3	20.2	29.1	41
1955	54.4	21.7	32.7	40
1956	53.6	20.5	33.1	38
1957	----	----	----	----

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for peanut butter is described in greater detail on pp. 93–94.

[2] Payment to farmer for 1.77 pounds of farmer's stock peanuts.

TABLE 105.—*Salad dressing: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1940–56* [1]

Year	Retail price per pint	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1940	20.7	3.1	17.6	15
1941	21.6	4.5	17.1	21
1942	25.0	6.5	[3] 18.5	26
1943	25.2	7.2	[3] 18.0	29
1944	25.6	7.4	[3] 18.2	29
1945	25.1	7.9	[3] 17.2	31
1946	30.5	8.1	[3] 22.4	27
1947	38.5	11.4	27.1	30
1948	39.6	11.3	28.3	29
1949	35.2	7.4	27.8	21
1950	34.7	7.9	26.8	23
1951	38.7	9.7	29.0	25
1952	34.9	7.5	27.4	21
1953	34.5	8.6	25.9	25
1954	35.9	8.5	27.4	24
1955	35.3	7.3	28.0	21
1956	35.3	8.2	27.1	23
1957	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for salad dressing is described in greater detail on pp. 93–94.

[2] Payment to farmer for imputed value of 0.40 pound of cottonseed oil and soybean oil, for 0.07 dozen eggs, and for sugar beets equivalent to 0.26 pound of sugar.

[3] Farm-retail spread plus Government payments to processors was: 1942, 18.6 cents; 1943, 18.2 cents; 1944, 18.4 cents; 1945, 17.7 cents; and 1946, 22.6 cents.

TABLE 106.—*Vegetable shortening: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per 3-pound can	Farm value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1919	93.6	41.4	52.2	44
1920	90.8	28.8	62.0	32
1921	58.4	12.0	46.4	21
1922	58.1	18.3	39.8	31
1923	59.2	22.2	37.0	38
1924	63.8	20.7	43.1	32
1925	66.1	20.1	46.0	30
1926	66.1	15.9	50.2	24
1927	64.8	16.5	48.3	25
1928	67.1	19.5	47.6	29
1929	63.8	17.4	46.4	27
1930	62.0	13.8	48.2	22
1931	58.9	9.3	49.6	16
1932	50.9	5.4	45.5	11
1933	47.3	5.7	41.6	12
1934	49.1	12.3	36.8	25
1935	56.6	20.7	35.9	37
1936	56.8	18.3	38.5	32
1937	56.6	17.4	39.2	31
1938	52.0	12.9	39.1	25
1939	52.0	12.0	40.0	23
1940	48.9	11.1	37.8	23
1941	52.7	20.4	32.3	39
1942	64.0	29.7	[3] 34.3	46
1943	63.5	30.6	[3] 32.9	48
1944	63.8	31.8	[3] 32.0	50
1945	63.3	32.7	[3] 30.6	52
1946	74.1	34.8	[3] 39.3	47
1947	114.1	56.5	57.6	50
1948	113.0	54.7	58.3	48
1949	89.8	27.4	62.4	31
1950	84.3	35.4	48.9	42
1951	100.5	44.8	55.7	45
1952	85.7	30.8	54.9	36
1953	87.6	34.8	52.8	40
1954	90.4	36.0	54.4	40
1955	89.5	29.7	59.8	33
1956	95.4	34.0	61.4	36
1957	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for vegetable shortening is described in more detail on pp. 93–94.

[2] Payment to farmers for cottonseed and soybeans imputed to 3 pounds of refined oil.

[3] Farm-retail spread plus Government payments to processors was: 1942, 34.8 cents; 1943, 34.3 cents; 1944, 33.1 cents; 1945, 33.0 cents; 1946, 40.1 cents.

TABLE 107.—*Corn sirup: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1953–56* [1]

Year	Retail price per 24-ounce can	Farm-value (2)	Farm-retail spread	Farmer's share
	Cents	*Cents*	*Cents*	*Percent*
1953	23.5	3.7	19.8	16
1954	23.7	3.8	19.9	16
1955	23.7	3.5	20.2	15
1956	23.8	3.4	20.4	14
1957	-------	-------	-------	-------

[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65-76. Methodology used in estimating price spreads for corn sirup is described in greater detail on pp. 94-95.

[2] Payment to farmer for 1.9 pounds of corn, less estimated value of byproducts.

TABLE 108.—*Sugar, beet: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1919–56* [1]

Year	Retail price per 5 pounds	Farm value [2]	Farm-retail spread	Farmer's share	Adjusted for Government payments and taxes		
					Farm-retail spread [3]	Farm value [4]	Farmer's share [5]
	Cents	*Cents*	*Cents*	*Percent*	*Cents*	*Cents*	*Percent*
1919	55.8	19.3	36.5	35	------------	------------	------------
1920	95.9	24.3	71.6	25	------------	------------	------------
1921	39.7	20.4	19.3	51	------------	------------	------------
1922	36.0	11.8	24.2	33	------------	------------	------------
1923	49.9	14.7	35.2	29	------------	------------	------------
1924	45.3	16.5	28.8	36	------------	------------	------------
1925	35.5	12.9	22.6	36	------------	------------	------------
1926	34.2	12.6	21.6	37	------------	------------	------------
1927	36.3	14.4	21.9	40	------------	------------	------------
1928	35.1	12.7	22.4	36	------------	------------	------------
1929	32.7	11.4	21.3	35	------------	------------	------------
1930	30.7	12.2	18.5	40	------------	------------	------------
1931	28.2	12.5	15.7	44	------------	------------	------------
1932	25.6	9.5	16.1	37	------------	------------	------------
1933	26.9	8.4	18.5	31	------------	------------	------------
1934	28.0	8.2	19.8	29	18.8	8.9	32
1935	28.6	8.1	20.5	28	18.1	10.7	37
1936	28.3	9.2	19.1	32	18.5	10.8	38
1937	28.6	9.8	18.8	34	18.5	10.2	36
1938	27.0	8.4	18.7	31	15.9	11.4	42
1939	27.6	7.6	20.0	28	17.3	10.6	38
1940	26.4	7.6	18.8	29	16.1	10.6	40
1941	29.0	8.7	20.3	30	17.6	11.8	41
1942	34.5	10.8	23.7	31	21.0	14.0	41
1943	34.5	12.1	22.4	35	20.0	16.2	47
1944	34.5	15.0	19.5	43	19.4	19.2	55
1945	34.0	17.3	16.7	51	18.6	21.6	64
1946	39.0	17.8	21.2	46	21.7	22.1	57
1947	49.3	19.7	29.6	40	27.2	24.0	49
1948	47.6	20.2	27.4	42	26.6	24.4	51
1949	48.3	18.4	29.9	38	27.2	22.6	47
1950	49.5	18.0	31.5	36	28.8	22.1	45
1951	51.4	19.3	32.1	38	29.4	23.4	46
1952	52.3	20.2	32.1	39	29.4	24.3	46
1953	52.8	20.5	32.3	39	29.6	24.6	47
1954	52.6	19.5	33.1	37	30.4	23.5	45
1955	52.1	19.0	33.1	36	30.4	23.0	44
1956	52.8	20.0	32.8	38	30.1	24.1	46
1957	------------	------------	------------	------------	------------	------------	------------

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[1] For general description of sources of data and methods used in deriving price spreads, see pp. 65–76. Methodology used in estimating price spreads for sugar is described in greater detail on pp. 94–95.

[2] Payment to farmer for sugar beets equivalent to 1 pound of refined sugar less value of byproducts. The quantity of sugar beets varies by seasons. Byproduct value is estimated as a constant percentage of gross farm value.

[3] Farm-retail spread less Government taxes paid by processors plus Government payments to processors. Under provisions of the Agricultural Adjustment Act, processing taxes averaging 53.5 cents per 100 pounds of refined sugar were in effect from June 1934 through Jan. 6, 1935. Under provisions of the Sugar Act, a tax of the same amount became effective in Sept. 1937 and has continued in effect since that time. For the crop years 1943–45 and 1947, processors of sugar beets received Government payments.

[4] Adjusted farm value is col. 2 (farm value) plus additional payments to producers under provisions of the Agr. Adjustment Act and the Sugar Act.

[5] Adjusted farm value as percentage of retail price.

PART IV

BIBLIOGRAPHY[1]

This bibliography contains selected annotated references to studies relating to margins and costs for food products. The primary purpose of this bibliography is to provide a guide to reports that contain useful statistics on the various processes involved in moving food products from farm to consumer. In particular, the list includes references that give breakdowns of the farm-retail spread, by functions, agency or cost items. Reports on "efficiency" studies are not included unless they also contain considerable statistics on cost breakdowns not available in other reports.

Most of the studies listed were published within the last 10 years. Not given are many reports in which the data are duplicated or outdated by later reports. A few studies published more than 10 years ago are included because they are considered noteworthy contributions to the study of food distribution costs.

The bibliography is arranged according to the following food commodity groups:

1. General (cross commodity and miscellaneous)
2. Bakery and cereal products
3. Dairy products
4. Fats and oils and special crops
5. Fruits and vegetables
6. Livestock, meat, and meat products
7. Poultry and eggs

Within each commodity group classification, entries are grouped alphabetically by author or by issuing agency where no author is given. This list includes publications of the U. S. Department of Agriculture, State agricultural experiment stations, other Government agencies, trade associations, and other research organizations.

This bibliography is also available as a separate and may be obtained by writing to the Marketing Information Division, Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

GENERAL (CROSS COMMODITY AND MISCELLANEOUS)

1. Barger, H. DISTRIBUTION'S PLACE IN THE AMERICAN ECONOMY SINCE 1869. New York: National Bureau of Economic Research, 1955. 222 pp. $4.50.

A thorough compilation of costs and productivity in distribution between 1869 and 1950. Especially useful are the appendices which include a detailed discussion of the procedures used in estimating value added by distribution and a 45-page section which lists sources of margin data for various types of businesses.

2. Bromell, J. R. SURVEY OF WHOLESALE GROCERS' PROFITS AND LOSS FIGURES—COMPILATION AND ANALYSIS OF 1955 OPERATING RESULTS. U. S. Wholesale Grocers' Association, Inc., Wash., D. C., 18 pp., 1956.

Summarizes operations of 91 wholesale grocers located throughout the U. S. in 1955 and compares them with 1954 and earlier post World War II years. Cost items, such as salaries, wages and supplies are shown as percentages of sales by volume groups and by regions. This publication was issued annually for several years prior to 1956 but will be published less frequently in the future.

3. Church, D. E. EFFECT OF INCREASES IN FREIGHT RATES ON AGRICULTURAL PRODUCTS. U. S. Dept. Agr. Cir. 847, 39 pp., illus. Apr. 1950.

Analyzes trends in the farm food transportation bill from 1939 to 1949 and causes of increased freight rates. Transportation costs as a proportion of the "marketing bill" for food are discussed and shown from 1929 to 1949. These costs are shown separately for railroads and motor-carriers over the 20-year period. Recent trends in railroad and regulated motor carrier freight rates with dates and explanations of the increases are summarized. Other topics include: General railroad rate levels for selected agricultural commodities in 1948; and the effect of recent rate increases on rate differentials, transportation costs, distribution of shipments, and farm returns.

4. Domestic Distribution Committee and the Business Statistics Committee of The Chamber of Commerce of the United States, Washington, D. C. VALUE ADDED BY DISTRIBUTION. 42 pp., fall 1956.

5. Domestic Distribution Department, Chamber of Commerce of the United States, Washington, D. C. THE VALUE ADDED BY DISTRIBUTION IN FILLING THE WANTS AND NEEDS OF PEOPLE. 17 pp., 1956.

The first publication describes in great detail the concept of value added by distribution, the growth of interest in this concept by students of distribution, its use as a measure of output and of economic significance, its relation to productivity, profits and taxation. Commodity, functional, and institutional approaches to value added are considered. A suggested outline is given for the computation of value added by manufacture and by distribution. The second publication is a general summary of the larger report and treats the subject in a less technical manner.

6. England, W. B. OPERATING RESULTS OF FOOD CHAINS IN 1955. Harvard University Business School, Boston, Mass. Bul. 148, 22 pp., Sept. 1956.

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[1] This bibliography and annotations were prepared by the following people in the Market Organization and Costs Branch: Helen T. Blake (dairy products), Alvin Z. Macomber (fruits and vegetables), John R. Pederson (poultry and eggs), Victor B. Phillips (livestock, meat, and meat products), Harold Rabinowitz (general: cross commodity and miscellaneous), Alma W. Updike (fats and oils and special crops), and Carl J. Vosloh (bakery and cereal products).

Presents a study of margins, expenses, and profits in food chain companies for the year 1955. Study covers 49 food chains operating over 6,500 stores and having sales of 5.5 billion dollars in 1955. Detailed tables are given and the highlights and trends are summarized in the text. Also includes comparisons with 1929–34 figures, an appendix with definitions and explanatory notes.

7. Fisher, W. D. SPOILAGE AS A MARKETING COST OF PERISHABLES. Agr. Econ. Res., U. S. Bur. Agr. Econ. 1:129–133, illus. Oct. 1949.

Presents and evaluates three different methods of computing and presenting marketing margins for perishable commodities. Differences among these methods depend upon the manner of considering spoilage loss. Methods compared are: adjustments of margin for spoilage loss, inclusion of spoilage loss valued at retail price, and inclusion of spoilage loss showing variable quantity.

8. Limmer, Ezekiel. CHIEF FACTORS UNDERLYING GENERAL CHANGES IN RAIL FREIGHT RATES, WITH SPECIAL REFERENCE TO FARM PRODUCTS, 1910–51. U. S. Bur. Agr. Econ., 58 pp., illus., May 1951.

Key factors relating to changes in railroad freight rates described in this article include adequacy of earnings, value of services, and economic conditions in agriculture. Discusses in some detail the standards which guide the Interstate Commerce Commission and the application of these standards. Summarizes historical background relating to freight rate changes, and presents a detailed table showing by years from 1910 to 1951 the principal freight rate-level decisions of the ICC.

9. Limmer, Ezekiel. HIGHER FREIGHT RATES AND OTHER TRANSPORT DEVELOPMENTS. The Mktg. and Transportation Situation, U.S. Agr. Mktg. Serv. 121:12–16, Apr. 1956.

10. Limmer, Ezekiel. TRANSPORTATION CHARGES. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 123:11–12, Oct. 1956.

The first article presents the cumulative percentage increases in rail freight rates for 5 major agricultural commodity groups since 1945, plus data on the percentage increases granted by the Interstate Commerce Commission to various modes of transport in the early months of 1956. Where applicable, divergent percentage increases for sundry farm products are shown. The effect of "hold-downs" is discussed—dollars-and-cents ceilings on percentage increases in the rates on specified commodities. Among the data in the second article are index numbers of rail freight rates for 5 major agricultural commodity groups, and a combined index for these, for 1945–56.

11. Market Organization and Costs Branch, U. S. Agr. Mktg. Serv. DO TRADING STAMPS AFFECT FOOD COSTS? U. S. Dept. Agr. Mktg. Res. Rpt. 147, 6 pp., Jan. 1957.

Explains the basic characteristics of trading stamp plans, their influence on sales volume, prices, and costs, the value of stamps, and their influence in both the immediate period and over a longer time. Estimates used in this exploratory report are based mainly on limited information available from non-Government sources including industry studies.

12. Naden, K. D., and Jackson, G. A., Jr. PRICES AS INDICATIVE OF COMPETITION AMONG RETAIL FOOD STORES. Jour. Farm Econ., 35:236–248, May 1953.

Analysis of how the consumers' practice of purchasing most food requirements in one rather than several stores raises the total utility to any individual and how this "joint demand" is a strong factor in shifting the attention of shoppers from individual commodities to the aggregate offered by a store. It shows why retail prices are more variable than prices for the entire market baskets offered by retail stores, and why such retail prices are more variable than wholesale prices.

13. Ogren, K. E. THE FARMER'S SHARE OF THE CONSUMER'S FOOD DOLLAR. U. S. Dept. Agr. Leaflet 123, 7 pp. illus. Revised Oct. 1954.

A nontechnical report that sums up information on farm-retail price spreads for food products in 1953 and discusses some of the factors such as wage rates, freight rates, and profits that affect these spreads.

14. Ogren, K. E. THE FARMER'S SHARE: THREE MEASUREMENTS. Agr. Econ. Res. U. S. Agr. Mktg. Serv. 8:43–50, illus. Apr. 1956.

This article describes the meaning of the farmer's share of the consumer's food dollar based on "market-basket" statistics and considers two other statistical series that can be used both to measure the part of consumer's food expenditures going to farmers and to provide other useful measurements in analyzing trends in marketing services and charges. Compares farmer's share measured by 3 methods for period 1929–55.

15. Ogren, K. E. THE MARKETING BILL FOR AGRICULTURAL PRODUCTS. Agr. Econ. Res. U. S. Agr. Mktg. Serv. 7:101–107, Oct. 1955.

Interprets and analyses statistics on the "marketing bill" for agricultural products with special reference to the use of "value added" concept. Brings together available data on the "marketing bill" and corresponding farm value for principal agricultural products, both food and non-food groups, with some preliminary estimates of value-added components.

16. Ogren, K. E. TRENDS IN MARKETING COSTS AND PRACTICES—THE LONGER TERM OUTLOOK. Paper presented at the 34th Annual Agricultural Outlook Conference, Washington, D. C., Nov. 27, 1956. U. S. Agr. Mktg. Serv. 11 pp., illus.

Summarizes key factors likely to affect the longer term outlook for marketing costs and practices. Includes 10 charts which show trends in factors relating to marketing costs and practices over the last 10 to 25 years.

17. Ogren, K. E. and Parr, K. LABOR IN THE MARKETING OF FARM FOOD PRODUCTS. Agr. Econ. Res. U. S. Agr. Mktg. Serv. 7-42–49, Apr. 1955.

A technical article describing the statistics compiled by the Agricultural Marketing Service for measuring number of workers and labor cost in the local assembly, transportation, processing, wholesaling, and retailing of farm food products. Discusses how the labor statistical series are compiled, their applications and limitations.

18. Parr, K. LABOR IN THE MARKETING OF FARM FOOD PRODUCTS. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 106:17–24, May–July1952.

19. Parr, K. and Scott, F. E. LABOR IN MARKETING FARM PRODUCTS. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 113:19–30, May 1954.

20. U. S. Agricultural Marketing Service. TRENDS IN THE COST OF LABOR IN MARKETING FARM FOOD PRODUCTS. U. S. Agr. Mktg. Serv., AMS-117, 19 pp., illus., May 1956. (Reprinted from Mktg. and Transportation Situation, Apr. 26, 1956.)

These 3 articles discuss trends in numbers of persons and labor costs in marketing farm foods from 1929 through 1955. The first article compares trends in annual earnings of workers in food marketing with those in all industries, manufacturing industries and retail and wholesale trade from 1939 to 1951. It also shows labor costs in processing as a percentage of retail cost of farm food sold to consumers by farm product groups in 1947. The last article compares index numbers of labor per unit of output, of hourly earnings of food marketing employees, and unit marketing charges from 1929 to 1955. Estimates in these articles are based on data published by the former Bureau of Agricultural Economics, the Agricultural Marketing Service, the Bureau of the Census, and the Bureau of Labor Statistics.

21. Pearson, F. A., and Myers, W. I. DISTRIBUTION OF HOUSEWIVES' FOOD DOLLARS BETWEEN FARMERS AND MIDDLEMEN. Farm Economics, Cornell Univ., 199: 5239–5268, illus., March 1955.

Detailed analyses of trends in retail prices, farm prices, middlemen's margins, and housewives' expenditures for milk, poultry, eggs, bakery and cereal products, potatoes, fruits and vegetables, and all "protein" foods for the period 1929–53. Changes in margins, prices, and expenditures for individual food products were measured relative to the average change for all food products to eliminate the effects of inflation and deflation. These ratios were applied in a study of changes in consumer demand, efficiencies in production and distribution, and changes in marketing services provided. Based mainly on U. S. Department of Agriculture data.

22. Reese, R. B. REVISED RAIL FREIGHT RATE INDEX NUMBER SERIES. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ., 110:11–17, July–Sept. 1953.

23. Reese, R. B. METHODS USED IN COMPUTING RAIL FREIGHT-RATE INDEXES FOR FARM PRODUCTS. U. S. Bur. Agr. Econ., 45 pp., Oct. 1953.

The first article summarizes much of the information given in the larger publication. The second publication gives a detailed description of current methods used by the Agricultural Marketing Service in computing freight rate indexes for 5 major agricultural commodity groups and a combined index derived from these. Shows these indexes annually from 1913 to 1952 (meat from 1940 only). Includes a discussion of the difference between the freight-rate indexes of the Agricultural Marketing Service and of the Interstate Commerce Commission.

24. Report of the Federal Trade Commission on Agricultural Income Inquiry. Part I. PRINCIPAL FARM PRODUCTS. 1,134 pp., illus., 1937.

Gives costs and margins data for several agricultural food commodities mostly for the years 1934 or 1935. Shares of consumers' dollar going to farmers, manufacturers, and distributors are discussed and shown in tables and charts.

25. Report of the Joint Commission of Agricultural Inquiry. Part IV. MARKETING AND DISTRIBUTION. U. S. Cong., 67th, 1st sess. rpt. 408, 266 pp., illus., 1922.

This study was a pioneering effort by the Joint Commission of Agricultural Inquiry to secure from original sources basic facts upon which a consideration of the problems of distribution might be predicated. Fifteen thousand questionnaires were sent out and returned covering more than 200 commodities for the years 1913 to 1921. Many tables are given for various farm food commodities which show the principal costs in the manufacturer's distribution of the retailer's and wholesaler's food dollar. This report was the fourth in a series. The other volumes were: "The Agricultural Crisis and Its Causes," "Credit," and "Transportation."

26. Sartorius, L. C., and Burk, M. C. EATING PLACES AS MARKETERS OF FOOD PRODUCTS. Bur. Agr. Econ., U. S. Dept. Agr. Mktg. Res. Rpt. 3, 118 pp., 1952 (In cooperation with the Div. Agr. Econ., Univ. Minn.)

Reviews existing information concerning the marketing of food through eating places; describes the eating-place industry in the United States as a whole, and in the sample cities, Minneapolis and Fairmont, Minn. Describes the services of public eating places and their specialized requirements. Presents and analyzes pertinent cost data. Tables show labor and food costs as percentages of sales in 1949 for Minneapolis and food costs for Fairmont, by type of eating place. Also shows major restaurant operating costs as a proportion of total sales in 1940 for 240 eating places in the United States. Includes some comparisons with operations and costs of retail food stores.

27. Snitzler, J. R. FEDERAL EXCISE TAXES ON TRANSPORTATION AS A FACTOR AFFECTING AGRICULTURE. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 108: 21-29, Jan. 1953.

Summarizes the background of the Federal excise tax on transportation of property and of persons from World War I through 1952, the economic effects of the tax on prices, the competitive positions of producers and shippers, and upon carriers for the transportation of property, the economic effects of the tax on the passenger deficit for the transportation of persons, and the effect of the deficit on freight rates.

28. Thompson, W. H. POSTWAR RAILROAD FREIGHT RATE INCREASES AND AGRICULTURE. Jour. Mktg. 12:298–306, Jan. 1951.

Discusses background of agricultural shippers' interest in railroad transportation problems, the current railroad dilemma in obtaining revenues adequate for maintenance of plant and equipment and in improving service. Summarizes the 8 railroad freight rate increases from July 1, 1946 to August 2, 1949; the effect of the increases on agricultural producers, and the outlook in railroad freight rates for the future.

29. U. S. Agricultural Marketing Service. FOOD TRANSPORTATION AND WHAT IT COSTS US. U. S. Dept. Agr. Misc. Pub. 738, 23 pp., illus., Nov. 1956.

A nontechnical report that discusses trends in transportation charges, services provided by transportation agencies, kinds of haulers and their functions. Compares average length of hauls to New York, Chicago, and Los Angeles for selected fruits and vegetables between 1941 and 1955. Discusses transportation costs to consumers, transportation costs as a percentage of the retail food dollar and of the marketing bill, and the relation of distance, amount of processing and price changes to the share received by haulers.

30. U. S. Agricultural Marketing Service. THE MARKETING AND TRANSPORTATION SITUATION. U. S. Bur. Agr. Econ. and Agr. Mktg. Serv. (published monthly from 1942 to 1952 and quarterly from Jan. 1952).

Each issue summarizes the most recent data available concerning the retail cost, farm value, marketing margin and farmer's share for the farm-food market basket. Data are published for recent years and the months of the current and preceding years. Detailed tables of retail cost, farm value, marketing margin and farmer's share for individual commodities and commodity groups in the market basket compare current quarterly figures with those of the previous quarter and same quarter of a year ago. Special articles on marketing margins and costs, transportation, and other current developments affecting marketing are featured frequently.

31. U. S. Agricultural Marketing Service. marketing costs for food. U. S. Dept. Agr. Misc. Pub. 708, 14 pp., illus. Dec. 1955.
A graphic report summarizing recent trends in food marketing costs, the distribution of the consumer's food dollar, marketing margins and farm value, and the "marketing bill" for farm foods. Estimates effects of increased services, cost levels, and added volume on the increase in the "marketing bill" between 1940 and 1955.

32. U. S. Agricultural Marketing Service. special margins and costs studies. Mktg. Res. Rpt. 167. 30 pp. illus., Apr. 1957.
Reprint of the testimony submitted to the Subcommittee of the Committee on Appropriations, House of Representatives, Eighty-fifth Congress, First Session, during the 1958 appropriation hearings for AMS. In 1955, Congress directed the Department of Agriculture to undertake special studies of the margin or spread between prices farmers receive and consumers pay for food. This report summarizes some of the results of those studies.

33. U. S. Agricultural Marketing Service. trends in corporate profits in marketing farm food products. U. S. Agr. Mktg. Serv., AMS-134, 16 pp., illus., Aug. 1956. (Reprinted from Mktg. and Transportation Situation, July 24, 1956.)
Examines recent trends in profits of food marketing corporations and compares corporate profits with other elements in the "marketing bill" from 1939 through 1955. Primary emphasis is placed on estimating total corporate profits as a component of the total spread between farm and retail prices of food products. These estimates are based primarily on data published by the Internal Revenue Service in "Statistics of Income." Also discussed are: noncorporate profits, factors contributing to the rise in profits, trends in profits per unit of product; and ratios of profits to sales and to stockholders' equity for leading food marketing corporations in recent years.

34. Waugh, F. V. the margin between farm prices and retail prices of 10 foods. U. S. Bur. Agr. Econ., U. S. Dept. Agr., 32 pp., illus., Mar. 1935 (out of print).

35. Been, R. O. and Waugh, F. V. price spreads between the farmer and the consumer. U. S. Bur. Agr. Econ., U. S. Dept. Agr., 73 pp., illus., July 1936 (out of print).

36. U. S. Bureau of Agricultural Economics. price spreads between farmers and consumers for food products, 1913-44. U. S. Dept. Agr. Misc. pub. 576, 290 pp., illus., Sept. 1945 (out of print).

37. Been, R. O. price spreads between farmers and consumers. U. S. Dept. Agr. Inform. Bul. 4, 95 pp., illus., Nov. 1949.

38. U. S. Bureau of Agricultural Economics. the marketing and transportation situation supplement for july-sept. 1953. 24 pp.
The 1935 report was the first of several publications giving detailed statistical series of farm-retail price spreads for farm food products beginning with 1913. Many of the statistical series in these five publications have been revised and are given in this publication.

39. Waugh, F. V. and Purcell, M. R. the farmer's concern with transportation policy. The Mktg. and Transportation Situation. U. S. Bur. Agr. Econ. 105:18-27, March-Apr. 1952.
Discusses economic consequences of increased freight rates from 1946 to 1952 on the agricultural producer, the effects on farm prices, production and inflation, the different effect on farmers in different parts of the country. Increases in freight rates since 1946 between selected areas are illustrated for cream and milk, apples, potatoes, and lettuce.

40. Winter, E. P. analysis of waste in marketing; remarks on methodology. Jour. Farm Econ. 32:138-144, Feb. 1950.
Waste is defined with respect to the marketing of perishables. Shows how physical loss can be presented so as to lend itself to comparisons throughout the marketing process. Considers causes of waste and some of the factors needed to evaluate the net economic significance of waste.

BAKERY AND CEREAL PRODUCTS

41. Ballow, E. B. margins and costs in cooperative marketing in kansas. Farm Credit Admin. Bul. 66, 60 pp., illus., May 1951.
This study is concerned primarily with factors causing variation in costs of handling and merchandising grain by 48 Kansas Farmers' elevators during the 4-year period, 1945-48. These representative elevators were selected and data pertaining to the operations of each were obtained, (1) to segregate and appraise the factors that tend to increase or decrease costs; (2) to analyze opportunities for cost spreading to determine how handling and merchandising costs might be reduced. The main consideration of this bulletin is to provide some measure that would point out the significance of the various cost factors, their interrelations, and the lack of uniformity in year-to-year data which reflect their influence.

42. Berg, K., Sorrell, L. C., and Zibarth, C. costs of unloading and elevating grain from rail cars and motor trucks, respectively, at pacific coast terminal tidewater elevators during the crop year 1954-1955 Univ. Wash., 55 pp., illus., December 1955. (Under Research and Marketing Act contract with U. S. Department of Agriculture).
This paper discusses costs for 8 elevators in Washington State, separately and collectively. Recommendations are given to determine an appropriate price for the grain unloading and elevating. The unit costs per bushel of grain are available and broken down for labor, administrative, etc., for the 8 elevators.

43. Blackmore, W. E. farm to retail margins for white flour and white bread. U. S. Bur. Agr. Econ., 16 pp., illus., Dec. 1948.
This study sets forth some of the existing conditions respecting the price spread or margin between the price the farmer received for his wheat and the price the consumer paid for the product in a usable form from 1913 to 1947. Also available in this report are statistics for: hourly earnings in various marketing enterprises, farmers' share of the retail dollar, and the millers' and bakers' costs and margins.

44. DeLoach, D. B. and Phillips, R. A. marketing dry edible beans and peas. Contract Report with Alderson & Sessions Co. U. S. Dept. Agr. Tech. Bul. 1044, 105 pp., illus., 1951.
This survey deals with the principal agencies marketing dry edible beans and peas and their operations in 1949, with the flow of products through marketing channels, and with the costs and margins accruing in distribution. With respect to marketing agencies, this nationwide study includes (1) elevators, (2) brokers and dealers, (3) canners, and (4) wholesale grocers. All

leading varieties of beans under three broad headings of white, colored, and lima, are covered in this report.

45. Efferson, J. N., Hathorn, R., and Gerlow, A. AN ECONOMIC STUDY OF ROUGH RICE STORAGE IN THE SOUTHERN STATES. Mktg. Res. Rpt. 75, 57 pp., illus., Nov. 1954. (U. S. Agr. Mktg. Serv. and La. Agr. Expt. Sta. cooperating.)

The appraisal of commercial rough rice storage units received the greater emphasis in this study. Actual costs for commercial and on-farm storage were compared and several major factors were found that have retarded the establishment of on-farm storage for rough rice. Total costs and income are given for the various types of storage structures, with and without driers, according to the total storage capacity utilized. Most of the statistical data included are for 1951–52.

46. Hall, T. E. NEW COUNTRY ELEVATORS—INFLUENCE OF SIZE AND VOLUME ON OPERATING COSTS. Farmer Coop. Serv. Cir. 10, 29 pp., illus., June 1955.

This study uses 6 grain elevators in the hard winter wheat belt as models, to point up specific unit cost-volume relationships according to major functions of the elevator business, merchandising or handling, storage, and sideline operations. Also considered in this report are: merchandising or handling costs, storage costs, fixed and variable costs, and cost of adding new equipment for each of the model elevators.

47. Limmer, E. and Byrne, R. J. TRANSPORTATION OF RICE IN THE SOUTH—AN ECONOMIC STUDY. U. S. Agr. Mktg. Serv. and Farmers' Coop. Serv., Mktg. Res. Rpt. 140, 51 pp., illus., Nov. 1956-

This survey deals with the methods of transporting rice, advantages and disadvantages of the several modes of transportation, rates and rate structure, distances of rice movements, loading and unloading methods, use of special railroad cars and conditioning of boxcars, and channels of rice movement. Data available in this study are for the distribution of traffic volume, charges, and other factors bearing on the competitive transportation situation of rice from driers and warehouses in Arkansas, Louisiana, Mississippi, Tennessee, and Texas during the 1953–54 season.

48. Phillips, S. W. AN ANALYSIS OF PRICE SPREAD FOR WHITE BREAD. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 106:25–33, illus., May–July 1952.

49. Phillips, S. W. PRICE SPREADS FOR WHITE BREAD. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 112:33–37, Feb. 1954.

50. Phillips, S. W. MARKETING MARGINS FOR WHITE BREAD. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 116:40–43, Jan. 1955.

The above articles supply statistics for flour mill costs and margins and the average spread between retail and wholesale prices. Each article brings up to date the trends in marketing margins for bread. The retail price for bread is also broken down into: cost of all ingredients to baker, baker's and retailer's margin, cost of wheat to miller, miller's flour margin, and the farmer's share of the retail price.

51. Richey, P. S. and Johnson, T. D. FACTORS TO BE CONSIDERED IN LOCATING, PLANNING AND OPERATING COUNTRY ELEVATORS. U. S. Prod. and Mktg. Admin., Mktg. Res. Rpt. 23, 94 pp., illus., June 1952.

Report contains the result of a survey made in Indiana to obtain information on how to determine the proper location, layout, and size of a country elevator and sets forth the operating methods, equipment, and practices that would result in maximum efficiency. Average income, expenses, and operating costs for various elevators according to capacity are given for the period 1947–49.

52. Slater, C. C. BAKING IN AMERICA, VOLUME II, MARKET ORGANIZATION AND COMPETITION. Northwestern University Press, Evanston, Ill., 457 pp., illus., 1956.

This study was made by the Northwestern University Center for Social Research, with the encouragement and cooperation of the American Bakers' Association. The author discusses the market organization and competition in 4 parts: (1) an overall picture of the baking industry, (2) contemporary economic organization, (3) the competitive process, and (4) the workability of competition. The operating profit and loss statements for 173 baking plants selected from 50 markets, as well as certain other operating statistics, are available in this book. Data collected were for a 3½-year period from January 1949 through June 1952.

53. Stokes, D. R. MARKETING MARGINS AND COSTS FOR GRAIN, GRAIN PRODUCTS, AND DRY EDIBLE BEANS. U. S. Bur. Agr. Econ. Tech. Bul. 934, 90 pp., illus., Aug. 1947.

This is one of a series of reports relating to marketing margins and costs for agricultural commodities. It deals with the breakdown of 1939 farm-to-retail spreads for grain products and edible beans. The composition of the total marketing margins, including processing, for grain products and edible beans is examined in this study.

54. The National Grange and Grocery Manufacturers of America, Inc. THE STORY OF BREAD. 5 pp., illus., 1952. (Reprinted from the Nationa Grange Monthly.)

This article uses bread margin data published by the Bureau of Agricultural Economics, and other information, to break the margins down into detail. Major breakdowns of the costs are: retail grocers' margin, bakers' margin, flour millers' margin, other ingredient processors' margin, inbound transportation and intermediate handling, and farmers' share. The data used were for 1950.

55. U. S. Agricultural Marketing Service. MARKETING MARGINS FOR WHITE BREAD. U. S. Agr. Mktg. Serv. Misc. Pub. 712, 15 pp., illus., Mar. 1956.

This study is one of a series of reports on food marketing costs and margins prepared by the U. S. Department of Agriculture. Included are the changes in bread prices, margins and costs from 1946 through 1955. Current data on bread prices and margins of the kind in the report, will continue to be published quarterly in "The Marketing and Transportation Situation."

DAIRY PRODUCTS

MANUFACTURED DAIRY PRODUCTS AND MILK BYPRODUCTS

56. Bartlett, R. W. CONCENTRATED MILK: ACTUAL AND POTENTIAL SALES. (Paper given at Farm and Home Week, Jan. 31, 1956). Univ. Ill. Dept. Agr. Econ., 5 pp. plus 3 tables. Jan. 1956.

Discussion of interstate sale of concentrated milk, and exploration of possibility of reducing distributor handling margins, with emphasis on current low distribution costs in Washington, D. C. Tables show, for various selected years, costs of distributing milk to consumers through stores in 24 cities, costs for transporting concentrated milk from Chicago to specific markets, and prices paid by consumers for whole and evaporated milk.

57. Butz, D. E., and Koller, E. F. COSTS OF DRYING MILK IN MINNESOTA PLANTS. Minn. Agr. Expt. Sta.

Bul. 413, 30 pp., illus. May 1952.
Presents a general picture of the Minnesota dry milk industry, with particular emphasis on costs involved in assembling milk supplies and processing dry milk in 1947–50. Includes suggestions for reducing milk assembly and manufacturing costs.

58. Erwin, C. C., and Harrington, D. N. MARKETING CREAM IN MISSOURI THROUGH COOPERATIVE BUYING STATIONS. Mo. Agr. Expt. Sta. Res. Bul. 539, 35 pp., illus. Dec. 1953.
Analyzes cooperative system of buying cream in Missouri through 50 local buying stations, with a special section on the marketing margins and costs of handling cream in this fashion during 1947–50.

59. Frazer, J. R., Nielsen, V. H., and Nord, J. D. THE COST OF MANUFACTURING BUTTER. Iowa Agr. Expt. Sta. Bul. 389, pp. 783–860, illus. June 1952.
Based on 1950 data from 13 Iowa creameries. Discusses costs of manufacturing creamery butter from farm-separated cream.

60. Grocery Manufacturers of America, Inc. EVAPORATED MILK—A STUDY OF THE SPREAD BETWEEN THE PRICE OF RAW FARM PRODUCTS AND THE PRICE PAID AT THE STORE BY THE CONSUMER. 205 E. 42nd St. New York 17, N. Y. 6 pp., Sept. 1953. (Reprinted from The National Grange Monthly.)
Gives estimates of the farmer's share, manufacturer's margin, and supermarket's margin in terms of the 1952 retail price for a 14½-ounce "tall" can of nationally advertised evaporated milk. Manufacturing and store handling costs are broken down and explained as a proportion of the retail price.

61. Hankinson, D. J. ANALYZING PRODUCTION COSTS. Ice Cream Review 35: 104–107. Aug. 1951.
Defines ice cream production costs and presents a method for calculating the ingredient cost per gallon. Includes a 1948 chart for determining flavor cost and cost of finished ice cream.

62. International Association of Ice Cream Manufacturers. TRENDS IN COSTS—ICE CREAM AND RELATED PRODUCTS—1955. 1105 Barr Bldg., Washington 6, D. C. Spec. Bul. 97, 29 pp., illus. Nov. 1956.
The latest publication of a series on trends in ice cream costs. Includes an analysis and comparison, on a district basis, of the product and ingredient costs per gallon. Operating expenses are compared for the years 1952–55, and weighted average costs per gallon are shown from 1936 through 1955.

63. Jensen, C. COST OF GETTING CREAM FROM THE FARM. N. Dak. Agr. Expt. Sta. Bimonthly Bul. 15: 83–84, Nov.-Dec. 1952.
Gives cost to 11 North Dakota creameries of getting cream from the farms to the plant by various methods (except for direct producer delivery).

64. Juers, L. E., and Koller, E. F. COSTS OF DRYING MILK . . . IN SPECIALIZED DRYING PLANTS. Minn. Agr. Expt. Sta. Bul. 435, 24 pp., illus. June 1956.
Reports on changes in the cost of manufacturing dry milk since World War II in 18 large specialized drying plants in Minnesota. Analyzes manufacturing and packaging costs and the effect of seasonal production on costs.

65. Kosikowski, F. V. COST OF MANUFACTURING CHEDDAR CHEESE IN NEW YORK STATE. Milk Products Jour. 45(5): 38–9, May 1954.
A survey of four companies representing 15 cheese factories in the New York area pool. Shows cost per pound of cheese made in New York State in 1953. Tabulates four categories of costs: Total cost, labor, direct materials, and burden(operating, overhead, and miscellaneous).

66. Milk Dealers' Association of Metropolitan New York, Inc. STUDY OF COSTS OF MANUFACTURING CREAM AND SKIM MILK POWDER AT NEW YORK POOL PLANTS, 1947–50. Hotel Roosevelt, Madison Avenue at 45th St., New York 17, N. Y. 11 pp., Sept. 1953. (Mimeo.)
Shows operating costs of seven manufacturing plants in the metropolitan New York pool in 1950. Analyzes and discusses costs involved in the separation of cream and the handling of skim milk. Explains costs of manufacturing, plant loss, operation of feeder plants and transportation of feeder milk. Costs in 1952 and 1953 are also related to earlier years.

67. Nelson, G. T. DECIDING WHETHER TO MANUFACTURE BUTTER AND POWDER . . . OR CHEESE. Oreg. Agr. Expt. Sta. Bul. 546, 9 pp. Nov. 1954.
To aid management in making economic decisions through consideration of the capital costs involved when planning to build a new plant or remodel the old. Gives price combinations at which it is equally profitable to manufacture cheese or butter and spray-process powder, together with the returns from cheese vs. butter-powder for 1947–53 received by 28 dairy plants in Oregon, Idaho, and Washington.

68. Nugent, R. J. ICE CREAM DELIVERY COST. Ice Cream Review 35: 49, 78–80. Dec. 1951.
Methods are suggested for improving efficiency and decreasing costs of delivery for ice cream. Cost data are based on a hypothetical situation, but costs are estimated for wages and labor, trucks, and cabinets.

69. Owen, M. F. CONTROLLING CABINET COSTS. Ice Cream Field 63(5): 54–58. Nov. 1951.
Tables show maintenance costs per gallon for 1946–51. Analyzes costs of cabinet equipment, display cabinet maintenance, and costs per gallon, also shows a table of original and depreciated value of used cabinets and compressors.

70. Rowe, G. A. ECONOMICS OF CHEESE MANUFACTURING IN TILLAMOOK COUNTY, OREGON. Oreg. Agr. Expt. Sta. Bul. 529, 31 pp., Dec. 1952.
Determines the relationship of unit cost to volume in cheese plants, based on a study of 16 plants in 1941–48. Shows cost rates and variable costs for five of the plants of different sizes, eliminating the variations in cost which were not related to differences in size.

71. Smith, R. T. COSTS OF ICE CREAM DISTRIBUTION. Ice Cream Trade Journal 46(6): 40–41, 105. June 1950.
A survey of ice cream manufacturers in the Pennsylvania–New Jersey–Delaware area. Costs in 1949 are compared with those of 1946 for delivery, truck bodies, small dealers served, products delivered, and cabinet service.

72 Spencer, L., and Scott, R. COSTS, MARGINS, AND PRODUCER PRICES IN CONCENTRATED MILK. Amer. Milk Rev. 13(6): 14–16. June 1951.
Treats estimated production costs and savings in handling charges. Reports experience with concentrated milk in various parts of the country since November 1950.

73. Thomsen, L. C. CHEESE FACTORY OPERATING COSTS. Milk Products Jour. 41(9): 32–35, 56–58, 60–62. Sept. 1950.
Gives costs for a group of 14 Wisconsin cheese

factories for 1944. Compares cost per pound of output in 1944 with cost in 10 other years during the period 1918–44. Considers manufacturing cost of various kinds of cheese. Includes 24 references to other literature relating to cheese.

74. Thomsen, L. C., and Froker, R. K. PACKAGING OF BUTTER FOR RETAIL SALES. Wis. Agr. Expt. Sta. Bul. 481, 16 pp., illus. Nov. 1948.

Details costs involved in packaging butter by firms packaging 5,000, 50,000 and 100,000 pounds per week in 1947. Discusses labor, equipment and overhead costs, as well as the margins for packaged butter over bulk sales. Cost figures based on information supplied by 30 creameries and butter distributors in Wisconsin, Minnesota, and Illinois.

75. U. S. Agricultural Marketing Service. MARKETING MARGINS FOR EVAPORATED MILK. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv., MTS–104: 9–11, Feb. 29, 1952.

Presents annual data on evaporated milk price spreads for 1920 to 1951, showing the division of the total margin between manufacturers and other marketing agencies.

76. U. S. Agricultural Marketing Service. THE OUTLOOK FOR FROZEN CONCENTRATED MILK. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv., MTS–123: 27–29. Oct. 1956.

Compares costs of frozen concentrate with fresh fluid milk under present shipping, packaging, and distribution methods. Presents a brief description of the trial use of frozen concentrated milk by the Army and Navy and discusses its possible acceptance as a retail product.

77. Utter, K. L., et al. METHODS AND COSTS OF PROCESSING AND DELIVERING FRESH CONCENTRATED MILK IN RURAL AREAS. Iowa Agr. Expt. Sta. Special Rpt. 14, 16 pp., illus. Nov. 1955.

Discusses processing difficulties and gives an insight into consumer reaction to fresh concentrate in rural areas of Iowa and Illinois in 1951. Gives estimates of various costs of handling fresh concentrated milk.

78. Walker, S. A., Preston, H. J., and Nelson, G. T. AN ECONOMIC ANALYSIS OF BUTTER-NONFAT DRY MILK PLANTS. Idaho Agr. Expt. Sta. Res. Bul. 20, 90 pp. June 1953.

Develops 5 model roller-process and 7 model spray-process butter-powder plants from data collected from a like number of real plants for 1948–49. Uses model plants to analyze relationship between costs and scale of operations and to study efficiency in the utilization of labor, equipment, and other resources. Based on detailed processing costs obtained for each of 17 functions in four broad categories: Overhead, joint operating, butter manufacturing, and powder manufacturing.

79. Ward, E. H., and Cook, H. L. CONCENTRATED MILK: SOME ASPECTS OF COSTS AND ACCEPTANCE FOR RETAIL DISTRIBUTION. Univ. Wis., Dept. Agr. Econ., Agr. Econ. 12, 40 pp. Sept. 1954.

The largest part of this report deals with the many costs of handling concentrated milk in 1951. Reports or estimates costs of raw milk, processing, containers, and distribution in various cities, together with cost of whole milk for the concentrating operation. Gives 107 references to other literature concerning concentrated milk.

80. Weber I., et al. COSTS PER GALLON. Ice Cream Field 60(6): 22, 24, 27, 70–71. Dec. 1952.

Tabulates and analyzes actual cost figures which are representative of Iowa ice cream manufacturers for 1948 and 1951. A panel of 4 representatives from the midwestern ice cream industry discuss delivery and selling costs in detail.

DAIRY PRODUCTS (GENERAL)

81. Bartlett, R. W. THE BEHAVIOR OF MARKETING MARGINS ON DAIRY PRODUCTS. Jour. Farm. Econ. 34(5): 922–929. Dec. 1952.

Summarizes data to 1951 on distribution margins for various dairy products and also the costs per quart for distributing milk to consumers through stores in 24 cities. Methods of lowering unit costs of operation are also discussed.

82. Boston Class II Milk Price Committee. PRICING CLASS II MILK IN THE BOSTON MARKET. 230 Congress St., Boston 10, Mass. 158 pp., illus. Feb. 1951.

Defines Class II milk and the objectives of pricing, the relationship of Boston prices to those in other markets, margins in Boston, and gives foundation for determination of costs and profits or losses. Also discusses income and expense at manufacturing plants, margins on sales of bulk milk and the costs of buildings, equipment, fuel repairs, etc. Tables cover various functional costs between 1930 and 1950.

83. Cooperative Auditing Service. SUMMARY OF COMPARATIVE COSTS OF OPERATION—PERIODS ENDING MAY 1, 1955 TO APRIL 30, 1956—COOPERATIVE CREAMERIES, CHEESE FACTORIES AND LOCKER PLANTS. 739 Johnson St., N.E., Minneapolis 13, Minn. 60 pp. 1956.

The 25th issue of the annual report, giving trends in overall operating costs and providing a basis of comparison in the operation of 166 cooperative dairy plants in the Midwest. Compares manufacturing costs by districts, and includes a summary of manufacturing costs per pound of butterfat.

84. Howe, C. B. MARKETING MARGINS AND COSTS FOR DAIRY PRODUCTS. U. S. Bur. Agr. Econ., Tech. Bul. 936, 82 pp. Nov. 1946.

One of a series of publications showing marketing margins and costs for selected commodities in the U. S., based on 1939 data. Includes marketing margins and costs, and marketing channels, for fluid milk, butter, American cheese, and evaporated milk.

85. Manning, T. W., Koller, E. F., and Jesness, O. B. MINNESOTA DAIRY COOPERATIVES. Minn. Agr. Expt. Sta. Bul. 420, 44 pp., Illus. June 1953.

Considers some of the special problems encountered by dairy cooperatives. Gives special attention to factors affecting operational and financial success or failure. Also treats operating expenses and net margins for 534 associations. Based on survey conducted in 1950.

86. Pritchard, N. T. CHANGES IN MARKETING MARGINS AND COSTS FOR DAIRY PRODUCTS, 1950–53. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. MTS–112: 18–26, Feb. 17, 1954.

87. Olson, R. E., and Smith, H. V. MARKETING MARGINS AND COSTS FOR DAIRY PRODUCTS. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. MTS–116: 10–17, Jan. 31, 1955.

88. Olson, R. E. MARKETING MARGINS FOR DAIRY PRODUCTS. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. MTS–120: 11–20, Jan. 25, 1956.

89. MacPherson, D. D., and Smith, H. V. MARKETING COSTS AND MARGINS FOR DAIRY PRODUCTS. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. MTS–124: 30–37, Jan. 30, 1957.

Analyzes changes in margins for fluid milk, butter, cheese and evaporated milk generally from

1950 to 1956. Compares these changes in margins with estimated changes in operating costs. Discusses effects of quantity discounts, variations in container size, and price spreads on manufactured dairy products in various sections of the country.

90. STAFF OF THE LEGISLATIVE COUNCIL. REPORT OF THE SPECIAL JOINT COMMITTEE ON DAIRY PRICE SPREADS TO THE 1955 LEGISLATURE. State Capitol, Madison, Wis. pp. 2072–2142. June 1955.
Gives details on dairy margins, prices, and costs, with special attention to the Wisconsin farmer's share of the consumer's fluid milk dollar and an explanation of why fluid milk margins behave as they do.

MILK

Assembly and Hauling

91. BAUM, E. L., and PAULS, D. E. A COMPARATIVE ANALYSIS OF COSTS OF FARM COLLECTION OF MILK BY CAN AND TANK IN WESTERN WASHINGTON, 1952. Wash. Agr. Expt. Sta. Tech. Bul. 10, 37 pp., illus. May 1953.
Substitution of the farm tank container for the 10-gallon can is increasing in importance in western Washington, and this study offers assistance in determing whether the bulk handling of milk collected at the farm is more profitable. Analyzes 1952 costs of operating a 1,500-gallon tank truck versus those incurred with can pick-up trucks, together with tank storage and refrigeration costs, can costs, wages, plant receiving room operation costs, etc.

92. BEAL, G. M. PROBLEMS ASSOCIATED WITH BULK HANDLING OF FLUID MILK. 1954 Milk Indus. Foundation Conv. Proc., 47th Ann. Meeting, Milk Supplies Sect., pp. 50–52, 1955.
Explores the effect of bulk handling on unit costs in widespread areas and the influence of refrigerated farm tanks on costs at the receiving station in terms of a 1953 investigation.

93. BOWRING, J. R. TANK-TRUCK ASSEMBLY OF MILK FOR NEW HAMPSHIRE. N. H. Agr. Expt. Sta. Bul. 410, 24 pp., illus. Mar. 1954.
Examines possibilities for economies through adoption of tank handling and estimates effect on the New Hampshire dairy industry. Three appendices outline measurements and anticipated costs of various-sized tanks. Data cover the period 1951–53.

94. CLARKE, D. A., JR. A COMPARATIVE ANALYSIS OF THE COSTS OF OPERATING MILK COLLECTION ROUTES BY CAN AND BY TANK IN CALIFORNIA. Univ. Calif. Giannini Foundation of Agr. Econ. No. 91, 46 pp. 1947. (Mimeo.)
Discusses generally the costs involved, comparative costs, trends to be expected, etc., in the developing use of farm storage tanks and transport tankers. Variations in cost arising from differences in input requirements are presented.

95. COTTON, W. P. MILK HAULING RATES AND PROBLEMS IN NORTH CAROLINA. N. C. State Col. Dept. Agr. Econ. AE Info. Series 28, 62 pp., illus. Dec. 1950.
Explains characteristics of milk collection routes and existing milk assembly conditions. A separate section appraises 1949 hauling rates and charges relative to returns, and estimates necessary charges per hundredweight to return truck operating costs.

96. COWDEN, J. M. FARM-TO-PLANT BULK AND CAN MILK HAULING COSTS. Farmer Coop. Serv. Rpt. 18, U. S. Dept. Agr., 56 pp., illus. March 1956.
Detailed analyses and comparisons of route operations for two midwestern cooperatives. Compares bulk and can hauling costs on the basis of actual and adjusted operations; explains factors affecting the comparative cost relationship. Analysis is based mainly on data obtained for June–Nov. 1953.

97. HENDERSON, A. S., and COWAN, R. BULK HAULING, ITS COST PROBLEMS—ITS SAVINGS. Milk Plant Monthly 45(5): 18–19, 41–42. May 1956.
Evaluates the pros and cons of bulk hauling; each author takes a separate viewpoint. Describes hundredweight charges and premium payments to producers, as well as the financing of tanks in 1955.

98. ISHEE, S. THE IMPACT OF BULK HANDLING ON THE MARKET MILK INDUSTRY. Northeast. Dairy Conf. Ann. Rpt. 21: 20–28, 1956. (Mimeo.)
Considers the bulk handling effect on costs and returns to producers, haulers, and handlers operating in Pennsylvania in 1954. Four tables give details on cost comparisons between can and bulk usage.

99. JOHNSON, S., and HENRY, W. F. FORMULAS FOR ADJUSTING MILK TRANSPORTATION RATES. Conn. Agr. Expt. Sta. Bul. 274, 34 pp., illus. Mar. 1951.
Provides a basis for adjusting hauling rates after an initial schedule, with appropriate differences among producers, is decided upon. Sections are devoted to the relative importance of various cost items in hauling milk, the effect of volume of milk deliveries on hauling costs, and hauling rates resulting from use of a suggested formula. Tables are based on data accumulated chiefly for 1946–50.

100. MILLER, A. H. BULK HANDLING OF WISCONSIN MILK—FARM TO PLANT. Wis. Agr. Expt. Sta. Res. Bul. 192, 72 pp., illus. Feb. 1956.
Compares costs facing the dairy industry in adoption of bulk handling, with costs expected under can operation. Discusses costs of equipment, labor, receiving and hauling, and includes tables based on these costs in Wisconsin during 1954.

101. SINCLAIR, R. O. ECONOMIC EFFECT OF BULK MILK HANDLING IN VERMONT. Vt. Agr. Expt. Sta. Bul. 581, 35 pp. June 1955.
Studies 18 farms which had converted to bulk tanks and analyzes the results as to the advantages and disadvantages of the change. Discusses and summarizes tank costs and operating costs in terms of 1953 prices.

102. STOCKER, N. PROGRESS IN FARM-TO-PLANT BULK MILK HANDLING. Farmer Coop. Serv. Circ. 8, U. S. Dept. Agr., 53 pp., illus. Nov. 1954.
Outlines results of a survey undertaken in the summer of 1953. Measures and describes the extent, location, and variable patterns of industry progress and trends in adopting the bulk handling system in all states except California and Florida. One section of the study deals with hauling rates and differentials on can vs. bulk hauling, and tabulates the estimated savings on bulk hauling for various parts of the country.

103. THOM, E. TANK TRUCK PICK-UP OF FARM TANK BULK MILK. The Milk Dealer 41(4): 38–39, 100–107. Jan. 1952.
Deals primarily with the engineering phase, but also gives cost figures for hauling in various cities, and relationship between charges for bulk tank hauling and can hauling. Charges shown are for 1951.

104. WELDEN, W. C. THE SMALL PRODUCER AND BULK. Milk Plant Monthly 46(3): 18–20, 22. March 1957.
Appraises New England experiences with bulk milk handling and debates charge that the bulk

tank works an undue hardship or penalty on small producers. Estimates tank costs, hauling premiums, increased income, and minimum cost of the bulk operation.

105. WILCOX, E. C. TRANSPORTATION OF WISCONSIN MILK —FARM TO MARKET. Wis. State Dept. Agr., Madison, Wis. Bul. 308, 74 pp., illus. July–Aug. 1951.
Supplies information on the movement of milk over Wisconsin highways. Surveys cover the following three groups: 1) A representative group of farmers throughout the state, 2) all dairy plants in the state receiving whole milk from farmers, and 3) contract haulers who were named in the dairy plant schedules. Discusses in detail hauling charges and costs for 1950.

Processing and Distribution

106. ALLRED, W. M., and WARD, E. H. COSTS, QUALITY, AND PRICES OF FLUID MILK IN RURAL AND URBAN AREAS OF UTAH AND MONTANA. Utah Agr. Expt. Sta. Bul. 365, 40 pp. Dec. 1953.
Analyzes operating costs in 1950 for 33 fluid milk processing plants in Utah and 9 in Montana. Discloses reasons for low unit operating costs. Describes the pricing pattern for fluid milk products in Utah and analyzes the quality of fluid milk supplied Utah communities.

107. BARTLETT, R. W., and GOTHARD, F. T. MEASURING EFFICIENCY OF MILK PLANT OPERATION. Ill. Agr. Expt. Sta. Bul. 560, 56 pp., illus. Nov. 1952.
Studies operation of two efficiently-run plants in Illinois and Minneapolis, with data for 1946 which can be used as a standard of comparison for other plants. Discusses costs of labor, space, equipment, and utilities. The appendix itemizes breakdowns of the cost data in 60 tables.

108. BAUM, E. L. ANALYSIS OF CLASS I UTILIZATION AND OPERATING SPREADS, SIX LEADING MILK DISTRIBUTORS, SEATTLE MILK MARKET, 1949–50. Wash. Agr. Expt. Sta. Circ. 125, 9 pp., illus. Dec. 1950.
Analyzes Class I operations of six leading handlers. Includes Class I analysis and seasonality of sales, and determination of the Class I operating spreads by months from July 1949 to June 1950.

109. BAUM, E. L., RILEY, R. D., and WEEKS, E. E. ECONOMIES OF SCALE IN THE OPERATION OF CAN AND TANK MILK RECEIVING ROOMS, WITH SPECIAL REFERENCE TO WESTERN WASHINGTON. Wash. Agr. Expt. Sta. Tech. Bul. 12, 70 pp., illus. May 1954.
Fixed and variable operating costs, as well as effects of plant volume and scale on operating costs, are analyzed for technically balanced model and receiving rooms of various sizes, which receive Grade A milk in conventional 10-gallon cans and from farm tank pick-up trucks. Data for 1953 furnish the basis for estimating costs.

110. BLANK, M. H. ARE GALLONS AND HALF-GALLONS PROFITABLE? Milk industry Foundation, 1952 Conv. Proc., pp. 39–51, Sept. 24–26, 1952.
Considers the differential on half-gallon and gallon containers, as compared with single quart equivalents. Analyzes processing operations of companies in southern California, metropolitan New York and New Jersey, and one midwestern plant.

111. BRESSLER, R. G., Jr. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. (10. CONSUMER DEMANDS AND PREFERENCES IN MILK DELIVERY.) Conn. Agr. Expt. Sta. Bul. 257, 51 pp., April 1948.
Determines reaction to alternate-day delivery, exclusive delivery territories, one plant for each market and elimination of home delivery routes. Data were obtained by questioning householders in Willimantic and Hartford. Also analyzes potential savings from milk delivery reorganizations and compares differences in costs before and after reorganization.

112. BROWN, E. E. SELLING MILK BY AUTOMATIC VENDING MACHINES. Clemson Agr. Expt. Sta. Bul. 435, 44 pp., illus. June 1956.
Concerned with the economic feasibility of selling milk through vending machines in the South. Devotes a section to operating cost budgets and another to the effect of major costs upon returns. 23 machines were placed in a variety of locations in South Carolina in 1955, and the results of the frequency of use are studied.

113. CLARKE, D. A., JR. COST AND PRICING PROBLEMS IN WHOLESALE MILK DELIVERY IN THE LOS ANGELES MARKET. Univ. Calif. Giannini Foundation of Agr. Econ. 29 pp., illus. Feb. 1951. (Mimeo.)
Discusses flat pricing and also the relationship of delivery costs to volume, with pricing reflecting the nature of delivery costs in 1950. Tables summarize delivery cost data for the Los Angeles market.

114. COOK, H. L. A BUSINESS ANALYSIS OF MILK VENDING OPERATIONS. Wis. Agr. Expt. Sta. Res. Bul. 174, 24 pp., illus. Mar. 1951.
Deals with the package-type vender. Surveys Wisconsin vender operators, and discusses the locations of their milk vending machines. Tabulates and explains an operating cost budget, as of 1950.

115. COOK, H. L., HALVORSON, H. W., and ROBINSON, R. W. COSTS AND EFFICIENCY OF WHOLESALE MILK DISTRIBUTION IN MILWAUKEE. Wis. Agr. Expt. Sta. Res. Bul. 196, 40 pp., May 1956.
With 17 dealers operating under the Federal Milk Marketing Order for Milwaukee, this study obtains representative routes of representative dealers so that averages obtained from the analysis of route operations would reflect costs of wholesale distribution in Milwaukee for the year 1954. Variable and fixed costs are summarized and compared with results of three similar studies.

116. COOK, H. L. PAPER PACKAGED MILK IN WISCONSIN. Wis. Agr. Expt. Sta. Res. Bul. 179, 40 pp., illus. June 1953.
Explores the use of paper in milk packaging and its part in expanding distribution areas. Investigates cost factors together with distribution savings realized in converting from a dual operation to straight paper. Most of the data given are for 1952.

117. HALL; C. W. OPERATIONAL COSTS IN A DAIRY PLANT—1952 Mich. Agr. Expt. Sta. Quarterly Bul. 36(1): 107–129, Aug. 1953.
Presents graphs showing standard, or average, costs for performing various operations in a fluid milk and cream plant.

118. HAND, P. E., and PIERCE, C. W. COST STUDIES OF RECEIVING AND TRANSPORTING MARKET MILK IN THE PHILADELPHIA AREA. Pa. Agr. Expt. Sta., A.E. and R.S. #6. 21 pp. Aug. 1956. (Mimeo.)
Outlined in this report are: A determination of the cost in 1954–55 of handling milk at selected country receiving stations shipping to the Philadelphia market, the cost of receiving bulk milk from country receiving stations at city plants, and the cost of receiving milk shipped directly from farmers to city plants. Tables give a breakdown on plant operation costs.

119. HELMBERGER, J. D., and KOLLER, E. F. QUANTITY DISCOUNT PRICING OF FLUID MILK. Minn. Agr. Expt. Sta. Bul. 433, 32 pp., illus. March 1956.

The relation of delivery cost to quantity is a highlight of this publication. Wholesale and retail delivery costs in Minneapolis receive special emphasis in the text with one table for 1952–53 showing the cost of delivery with respect to size of delivery.

120. HERRMANN, L. F., and WHATLEY, T. J. COSTS AND MARGINS OF MILK DISTRIBUTORS IN MEMPHIS, Tennessee, in 1948. U. S. Bur. Agr. Econ., 30 pp., 1950.

Shows sales, expenses and profits for a group of milk distributors in Memphis, Tenn. Compares expenses for retail and wholesale distributors, large and small dealers, and compares price spreads and measures of performance for Memphis with other markets.

121. HICKS, J. W., and WOOD, G. B. OPERATIONS IN RETAIL AND WHOLESALE MILK ROUTES. Purdue Agr. Expt. Sta. Bul. 556, 43 pp. Nov. 1950.

This study investigates some of the factors influencing the cost of delivery of milk as carried out in Indiana markets in 1948–49, with special emphasis being given to labor costs and the possible means of reducing delivery costs. Studies 14 dairies in Indianapolis, Fort Wayne, Gary, and Frankfort, and computes average times for each of the operations performed in a route.

122 HIRSCH, D. E. MILK DISTRIBUTION COSTS OF GEORGIA COOPERATIVES. Farmer Co-op. Serv. Gen. Rpt. 16, U. S. Dept. Agr., 39 pp., illus. May 1955.

Gives results of a cost study made in 1953 of 13 milk distributing cooperatives in Georgia. Compares investment and operating costs of the 13 associations classified into 3 groups according to size.

123. HURT, V. G. COST AND EFFICIENCY OF SELECTED MISSISSIPPI FLUID MILK PLANTS. Miss. Agr. Expt. Sta. Bul. 536, 30 pp., illus. Aug. 1955.

Operating costs in 1952–54 are categorized and analyzed for 12 fluid milk plants. Plants were selected on the basis of size and type of operation, geographical location, type of records available, and influence of other plants within the State. Tables show average costs of management, processing, and distribution.

124. JOHNSON, S. LOAD SIZE AND DELIVERY LABOR COST IN MILK DISTRIBUTION. Conn. Agr. Expt. Sta. Bul. 264, 20 pp. March 1950.

Surveys 23 distributors, operating 471 retail and 97 wholesale milk routes in the 4 largest cities in Connecticut, and obtains data on route loads and delivery labor costs for the month of May 1946.

125. KING, G. A., and BRESSLER, R. G., JR. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. (12. wholesale milk distribution.) Conn. Agr. Expt. Sta. Bul. 273, 56.pp. July 1950.

Determines detailed time requirements on wholesale delivery routes and computes labor costs by applications of wage rates. Also computes wholesale delivery truck costs. Applies labor and truck costs to estimate wholesale delivery costs and to determine the effects of volume per customer stop on delivery costs.

126. KIRKWOOD, E. K., and BLACKSTONE, J. H. MERCHANDISING DAIRY PRODUCTS IN ALABAMA RETAIL FOOD STORES. Ala. Agr. Expt. Sta. Bul. 294, 62 pp., May 1955.

Studies 147 stores handling dairy products in Birmingham, Gadsden, Mobile, and Montgomery in 1952. Considers costs of handling fluid milk and evaluates some of the factors affecting these costs. Includes 44 tables in the appendix which aid in the evaluation.

127. KORZAN, G. E. COSTS OF DISTRIBUTING MILK IN MONTANA MARKETS. Mont. Agr. Expt. Sta. Bul. 462, 46 pp., illus. July 1949.

Investigates and discusses distribution costs and factors affecting them. Most of the data secured from 42 milk distributors are for 1947, with some available for 1948.

128. KORZAN, G. E., DAVIS, A. B., and MACPHERSON, D. D. COSTS OF DISTRIBUTING MILK IN THE PORTLAND MARKET. Oreg. Agr. Expt. Sta. Bul. 510, 23 pp. Feb. 1952.

Average unit costs were computed from 1949 cost data obtained from 20 milk distrubutors in the Portland market. Unit costs were related to the size of business; costs of processing milk in glass and paper containers were compared; and costs of distributing milk at wholesale and retail were computed. Suggestions were made for reducing costs in milk distribution.

129. KORZAN G. E. and PFANNER, J. A., JR. COSTS OF RETAILING MILK AMONG A GROUP OF GROCERY STORES IN PORTLAND, OREGON. Oreg. Agr. Expt. Sta. Bul. 504, 16 pp., illus. Oct. 1951.

Contains tables showing unit costs for handling milk in small, medium, and large grocery stores, and also by type of outlet, in June 1950. The sample includes 35 stores.

130. LEATHERS, T. D. HIGH COST OF DELIVERY. Milk Plant Monthly 44(1): 13–14, 42. Jan. 1955.

Summarizes a series of articles in the "Cleveland Plain Dealer." Refers to a survey conducted by the West Virginia Agricultural Experiment Station on delivery costs for dairy products. Examines charges for delivery in the Cleveland area for the years 1951–54.

131. MANNING, T. W., FELBERG, R., and KRISTJANSON, R. L. MILK OR CREAM—WHICH IS MORE PROFITABLE FOR SOUTH DAKOTA FARMERS AND CREAMERIES? S. Dak. State Col., AES Bul. 460, 27 pp. Feb. 1957.

A detailed cost analysis of 5 cooperative creameries in South Dakota to determine the profitability of shifting from farm separated cream to a whole milk operation. Operating costs for butter made from cream are compared with those incurred through conversion to whole milk, and comparative costs and returns to farmers and creameries are described for cream and milk.

132. METZGER, H. B. AN APPRAISAL OF MULTIPLE-QUART CONTAINERS, VOLUME DISCOUNTS AND STORE DIFFERENTIALS IN MILK DISTRIBUTION. Maine Agr. Expt. Sta. Rpt. 56, 21 pp. Sept. 1955. (Mimeo.)

Investigates the adoption of multiple-quart containers and the effect of gallon-jug usage on marketing costs in various areas. Also discusses volume discounts and unit costs for retailing milk in stores. Most of the cost data are for 1953 or 1954.

133. METZGER, H. B. CHANGES IN COSTS OF MILK DISTRIBUTION IN MAINE. Maine Agr. Expt. Sta. Rpts. 19, 28, 36, 44, and 54. April 1951, May 1952, June 1953, June 1954 and July 1955. (Mimeo.)

A series of annual studies of changes in milk distribution costs based on changes in 19 items comprising an index. The index measures the effect of changes in prices, except that labor expense per quart of route sales is used as a measure of change, instead of wages alone. The percentage change in item cost is calculated, and another table lists the changes in costs.

134. METZGER, H. B. COSTS OF OBTAINING PASTEURIZED MILK; A COMPARISON FOR SUBDEALERS AND SMALL PROCESSOR-DISTRIBUTORS. Maine Agr. Expt. Sta. Bul. 515, 42 pp. May 1953.

Enumerates and compares costs of procuring pasteurized milk by Maine subdealer distributors in 1951, and costs of pasteurizing by small processor-distributors. The comparative efficiencies should aid small milk distributors in deciding whether or not to do their own pasteurizing.

135. METZGER, H. B., and PIERCE, C. W. MILK MARKETING BY PRODUCER-DISTRIBUTORS. Pa. Agr. Expt. Sta. Bul. 544, 50 pp., illus. Oct. 1951.

Makes available data on the costs of, and returns from, milk distribution of representative producer-distributors, and analyzes these data to determine variations in costs and returns and the factors responsible for the differences. From the records, 85 producer-distributors in Pennsylvania furnished information for the period June 1, 1947 to May 31, 1948.

136. METZGER, H. B. THE TREND IN MILK DELIVERY EFFICIENCY AND LABOR COSTS IN PORTLAND, MAINE, 1941, 1951, 1954. Maine Agr. Expt. Sta. Rpt. 50, 26 pp., Illus. Dec. 1954. (Mimeo.)

Assesses the extent to which World War II efficiencies of milk delivery had been carried into the post-war period and measures their effect on costs. Data are for the years 1941, 1951, and 1954, and were obtained from the records of the 4 largest distributors in the Portland market.

137. MONROE, W. J., and WALKER, S. A. AN ECONOMIC STUDY OF SMALL FLUID MILK PLANT PROBLEMS IN NORTHERN IDAHO. Idaho Agr. Expt. Sta. Bul. 255, 43 pp. Mar. 1956.

Annual data were obtained from the records of six plants in November 1953. Basic model plants are set up, and operating costs itemized. The effect of increasing volume on cost reductions is also discussed.

138. MYRICK, N. THE LAWSON STORY. Amer. Milk Rev. 17(8): 32-34, 36, 107. Aug. 1955.

Operating on a margin of 4 cents a quart for processing and distributing in gallon jugs, the Lawson Milk Company of Akron, Ohio, has achieved its unique success through spectacular savings in container costs and large-volume delivery. Gives details on cost reductions, and discusses the company's vertical control.

139. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. A MANUAL OF PROCEDURES FOR MILK PRICE SPREAD ANALYSIS IN NEW YORK STATE. Williams Press, Inc., Albany, N. Y. 121 pp., Illus. April 1951.

Provides a description of the basic techniques to be used in a study of spreads. Included with a discussion of typical costs encountered, are sections dealing with commission costs, bad debt losses and milk losses. Procedures for costing a typical plant processing operation are illustrated, as well as a time study of cost techniques applied to distribution functions.

140. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. AN ANALYSIS OF THE SPREAD BETWEEN FARM AND CONSUMER MILK PRICES IN NEW YORK CITY UNDER PRESENT PRACTICES. Williams Press, Inc., Albany, N. Y. Legislative Document (1949), Part I of the Annual Report (1948-49). 94 pp.

141. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. AN ANALYSIS OF THE SPREAD BETWEEN FARM AND CONSUMER MILK PRICES IN BUFFALO UNDER PRESENT PRACTICES. Williams Press, Inc., Albany, N. Y. Legislative Document (1950), Part I of the Annual Report (1949-50). 73 pp.

142. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. AN ANALYSIS OF THE SPREAD BETWEEN FARM AND CONSUMER MILK PRICES IN BINGHAMTON UNDER PRESENT PRACTICES. Williams Press, Inc. Albany, N. Y. Legislative Document (1951), No. 17 Part I of the Annual Report (1950-51). 51 pp.

143. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. AN ANALYSIS OF THE SPREAD BETWEEN FARM AND CONSUMER MILK PRICES IN AMSTERDAM UNDER PRESENT PRACTICES. Williams Press, Inc. Albany, N. Y. Legislative Document (1951), No. 17A, Part 2 of the Annual Report (1950-51). 42 pp.

These 4 studies examine the costs borne by, and profits earned by, distributors of fluid milk and cream in the various cities, using data for the year prior to publication. Spreads are calculated and statistical tables are compiled for all functions from production through consumer sale. Special attention is given to store and retail margins, transportation to bottling and pasteurizing plants, and retail and wholesale delivery of milk.

144. NEW YORK STATE TEMPORARY COMMISSION ON AGRICULTURE. THE SPREAD BETWEEN FARM AND CONSUMER MILK PRICES IN NEW YORK STATE MARKETS. Williams Press, Inc., Albany, N. Y. Legislative Document (1951), No. 34, Part 3 of the Annual Report (1950-51). 40 pp.

Describes and analyzes price spread relationships and differences in New York City, Buffalo, Binghamton, and Amsterdam.

145. OLSON, R. E. AN ANALYSIS OF OPERATING COSTS OF SELECTED MILK DEALERS. U. S. Bur. Agr. Econ., annual convention of Milk Industry Foundation, Boston, Mass. 21 pp. Oct. 27, 1953. (Mimeo.)

146. OLSON, R. E. REDUCING MILK MARKETING COSTS. U. S. Agr. Mktg. Serv., Ann. Mtg. of Northeast Dairy Conf., 10 pp. March 26, 1954. (Reprinted in Northeast Dairy Conf. Proc. and in Milk Plant Monthly, 43: 25-27, May 1954, under the title Marketing Costs.)

147. OLSON, R. E. CHANGES IN COSTS OF PROCESSING AND DISTRIBUTING MILK, 1952-54. U. S. Agr. Mktg. Serv. 7 pp. March 1955. (Address at meeting of Southeast Milk Plant Accountants, Charlotte, N. C., Mar. 11, 1955.) (Mimeo.)

148. OLSON, R. E., and HERRMANN, L. F. RECENT FINDINGS ABOUT MILK DISTRIBUTION COSTS. U. S. Agr. Mktg. Serv., 49th Ann. Conv. of the Milk Industry Foundation, Atlantic City, N. J. 5 pp. Nov. 2, 1956. (Mimeo.)

The above 4 reports explain results of a continuing study of operating costs and efficiency among selected milk dealers. Include data separately from 1952 through March 1956. Consider relative importance of costs entering into milk processing and distribution and appraise possibilities for reducing costs.

149. PADGETT, J. H. AN ANALYSIS OF MILK VENDOR OPERATIONS IN SOUTH CAROLINA. Clemson Agr. Expt. Sta. Circ. 100, 15 pp., illus. Nov. 1955.

Describes automatic merchandising costs and returns based on a study of 50 vending machines in various South Carolina localities. Tables include data for 1955.

150. PARK, C. W. MILK PACKAGING FOR RETAIL DISTRIBUTION. A. H. Pugh Printing Co., Cincinnati, Ohio. 186 pp., Illus. 1956.

In order to make a comparison of costs in the use of glass and paper containers under exactly similar conditions, the Suabedissen-Wittner Dairy of South Bend, Ind., was studied for 11 weeks in 1954 as an all-glass operation. It then converted to paper only for a 12-week period in 1955, and a continuing study was made of cost factors involved not only in packaging and related plant operations, but also in the delivery of products to the consumer. Discusses and tabulates results of the survey on a comparative basis.

151. Pritchard, N. T., and Cope, W. H. MILK ASSEMBLY IN THE FORT WAYNE MILKSHED. Purdue Agr. Expt. Sta. Bul. 559, 24 pp. Feb. 1951.
Treats milk assembly costs in the Fort Wayne milkshed in the fall of 1949; determines the chief factors affecting haulers' returns; develops a system of hauling rates reflecting costs of service; and recommends changes in hauling practices likely to lower hauling costs.

152. Purcell, J. C., and Penny, N. M. COST OF PROCESSING AND DISTRIBUTING MILK IN THE SOUTH. Southern Cooperative Series. Bul. 15, 40 pp., illus. June 1955. (Agr. Expt. Stas. of Ala., Ark., Ga., La., Miss., N. C., S. C., Tenn., Tex., and Agr. Mktg. Serv. cooperating.)
Analyzes cost per unit in receiving, processing, distribution, and administration; processing costs are analyzed by major cost items as filling costs, containers and supplies; cost comparisons are made between type of container and size of plant; the relationship of costs to volume is discussed and illustrated with charts; a statistical index is included. Data for this survey were gathered from records in 16 fluid milk plants in Georgia, Mississippi, South Carolina, and Tennessee in 1952–53.

153. Schlenker, A. A., and Parker, E. J. MARGINS ON FLUID MILK IN THE DULUTH-SUPERIOR MARKETING AREA, 1947–48 U. S. Dept. Agr. Mktg. Res. Rpt. 32, 55 pp. Jan. 1953.
Develops a measure of the composite margin received by dealers for all fluid products sold in the area, and provides comparisons with margins for the individual items. Shows effects on dealers' margins of two different types of quantity discount plans, which enable distributors to calculate precisely the price structure which will yield a chosen over-all margin.

154. Scott, R. A. LABOR UTILIZATION IN SMALL VOLUME MILK PASTEURIZING AND BOTTLING PLANTS. Cornell Agr. Expt. Sta. Bul. AE–850, 36 pp. April 1953.
Determines the influence of various factors, other than volume, on the unit costs of operating pasteurizing and bottling plants. Four plants handling a daily fluid milk volume of 2,500–3,500 quarts are examined. Labor costs and other operating expenses for 1951 are taken from records of the 4 plants, located in central and southern New York.

155. Smith, H. V., and MacPherson, D. D. MILK DISTRIBUTORS' SALES AND COSTS, JULY–SEPT. 1956. U. S. Agr. Mktg. Serv. AMS–180. 7 pp. April 1957.
This is the first of a series of published data showing milk distributors' sales and costs per unit of product in various geographic areas of the country. Data are for typical firms selected on the basis of ownership and size and their costs analyzed, with recent trends tabulated annually for 1952–54 and quarterly for January 1955 to September 1956.

156. Solzan, F. B. COST OF PACKAGING. Milk Plant Monthly 44(2): 14–16, 68. Feb. 1955.
Describes packaging costs of glass vs. paper containers for 60 milk plants which are served by the cost accounting firm, Edward B. McClain Company. Examines container costs in April–June 1954. Charts accompany the text discussion.

157. Spencer, L. RECENT TRENDS IN THE SALES, COSTS AND PROFITS OF MILK DEALERS IN THE NEW YORK MARKET. Cornell Agr. Expt. Sta. Bul. AE 774, 9 pp. Oct. 1951.
Details based on the operating results of 36 milk dealers in the New York Metropolitan Milk Marketing Area are presented for 1946–50, with changes in sales, costs, and profits during that period tabulated.

158. Spindler, H. G. LABOR COST ON RETAIL MILK ROUTES IN SPRINGFIELD, MASSACHUSETTS. Mass. Agr. Expt. Sta. Bul. 478, 35 pp., illus. Aug. 1954.
Studies the operation of 7 large and medium-sized companies for the week ended April 26, 1952. Analyzes physical characteristics of the routes and discusses load value and dealer margins, driver wage costs and relation of cost and values to physical factors.

159. Starr, G. W. MILK PROCESSING AND DISTRIBUTION COSTS—1955. Milk Industry Foundation, 1145 19th St., N.W., Washington, D. C. 6 pp. 1956.
The eighth of a series of studies sponsored by the Milk Industry Foundation on the costs of milk distribution. Work on the series is performed at Indiana University, and this report is based on data from 446 local fluid operations in 362 cities and towns in more than 40 States. Relative, rather than unit, costs are given for the various functions within a milk distributing operation, with average operating results tabulated in terms of net trade sales in 1955.

160. Sykes, J. G. MILK VENDING IN VERMONT. Vt. Agr. Expt. Sta. Bul. 592, 12 pp. June 1956.
Compares the advantages and disadvantages and operating costs for hand-operated and automatic milk vendors, which were placed in 8 different locations in May of 1955.

161. Webster, F. C. SPECIFICATIONS AND COSTS FOR A MODERATELY SMALL MILK PASTEURIZING AND BOTTLING PLANT. Cornell Agr. Expt. Sta. Bul. AE 1031, 39 pp. May 1956.
Predicts costs incurred under various alternative processing methods through the use of a basic model plant. Modifications tested include: Changes in volume, use of a high-temperature-short-time pasteurizer, bottling in paper containers, and a bulk receiving operation. Various unit and operating costs are allocated to the different cost centers within the framework of each modification in 18 tables.

162. Wilhelm, R. B. TRENDS IN MILK PACKAGING—GLASS BOTTLES. Internatl. Assoc. Milk Control Agencies, Ann. Mtg., 17: 46–59. 1953.
Compares cost for glass and paper milk containers for 1952 and discusses costs associated with a dual operation. Also considers the use and unit cost of the glass gallon jug.

163. Williams, S. W. COST AND RETURNS TO ALABAMA MILK DISTRIBUTORS. Ala. Agr. Expt. Sta. Bul. 287, 70 pp., illus. June 1953.
Studies expenses, receipts, and net incomes of Alabama milk distributors, and examines reasons for variations among them. Suggests ways to reduce processing and distribution costs. Data are obtained from the records of 35 milk distributors for 1948 and from 20 distributors for the first 6 months of 1949.

Milk — General

164. Bressler, R. G., Jr., and Clarke, D. A., Jr. RESALE MILK PRICE CONTROL—OUTMODED AND ANTI-SOCIAL? Jour. Farm Econ., 37(2): 280–291. May 1955.
Shows comparisons of price spreads between producer and consumer in controlled and noncontrolled markets. In January 1955, 12 States had retail price control of fluid milk. Two tables compare retail, wholesale, and store margins in 33 markets in these States, and 67 markets in other States without Government control.

165. Herrmann, L. F., and Baill, M. FARM-TO-RETAIL MARGINS FOR FLUID MILK. U. S. Bur. Agr. Econ., 29 pp. Nov. 1951. (Mimeo.)

Compares the 1948 and 1949 price spreads on fresh fluid milk among markets with respect to: Geographic location, population, differential between milk delivered to home and milk sold in stores, Government regulation, wage rates for drivers of milk trucks, level of prices paid farmers, differences between prices paid farmers for milk used for fluid milk and milk used for cream, price spread between milk used as fluid and milk used for producing cream and cottage cheese jointly, per capita consumption of milk and per capita income.

166. Kutish, J., and Miller, A. TRUCK TRANSPORTATION IN THE MARKETING OF WISCONSIN MILK AND FLUID DAIRY PRODUCTS. Univ. Wis. Agr. Col. Ext. Serv. Econ. Inform. Wis. Farmers 21(4-6): 1-6. Apr.-June 1950.

Reviews hauling costs from farms to plants, between plants in the State, and from Wisconsin plants to out-of-State markets in 1949. Assesses the effect of size of payload on these costs.

167. Robinson, K. A STUDY OF FLUID MILK MARGINS IN NORTHEASTERN CITIES. Harvard Studies in Marketing Farm Products, Cambridge, Mass. No. 8-H, 36 pp., illus. June 1954.

Considers factors causing 50 percent higher fluid milk margins in some markets than in others. The cities studied were Boston, Portland, Providence, Hartford, New York, Philadelphia, Baltimore, and Washington, D. C. The intermarket margin relationships and the factors associated with intermarket differences in fluid milk margins are singled out for investigation, based on 1950 data.

168. U. S. Agricultural Marketing Service. MARKETING COSTS AND MARGINS FOR FRESH MILK. U. S. Dept. Agr. Misc. Pub. 733, 15 pp., illus. Oct. 1956.

Describes briefly the marketing of fluid milk, the distribution of the consumer's milk dollar in 1955 by major functions and by marketing costs, trends since World War II in retail price, farm value and marketing margin, labor costs and profits, and ways marketing costs have been reduced. Estimates of U. S. averages are based on statistics reported in other studies.

FATS AND OILS AND SPECIAL CROPS

COTTONSEED

169. Anderson, F. B. FACTORS AFFECTING HANDLING COSTS OF COTTONSEED AT GINS IN ALABAMA. Ala. Agr. Expt. Sta. Bul. 292, 31 pp., illus. Aug. 1954.

Data on methods and practices used in handling cottonseed, factors affecting costs which include labor, depreciation, costs of moving cottonseed to storage, costs of transporting cottonseed to oil mills, and insurance on cottonseed in 1950-51.

170. Belvin, W. L., and Hembree, J. F. COTTONSEED OIL INDUSTRIES OF ARKANSAS. Univ. Ark., Inst. Science and Technol. Res. Series 17. 45 pp., illus. May 1949.

Location and number of cottonseed oil mills, importance of cottonseed crushing centers, breakdown between independent and chain-owned mills, distribution of cost of processing cottonseed, products shipped by railways and terminations. Value added to oil in making shortening, cooking oils, and oleomargarine.

171. Brewster, J. M. COTTONSEED OIL MILLS: THEIR COMPARATIVE EFFICIENCIES AND EFFECTS ON PRICES AND PRODUCERS RETURNS. U. S. Prod. and Mktg. Adm. Agr. Inform. Bul. 103, 27 pp., illus. June 1953.

Topics include crushing capacity, operating season, and profitableness of cottonseed oil mills, gains in net revenue through shifting from hydraulic and screw press to other methods of crushing, product revenues per ton of seed, investment requirements for different mills with different processors for 1949-50. Mill localities are in North Carolina, Arkansas, Louisiana, Oklahoma, Texas, and California.

172. Cox, A. B. THE COTTONSEED CRUSHING INDUSTRY OF TEXAS IN ITS NATIONAL SETTING. Cotton Res. Com., Austin, Texas. 346 pp., illus. 1949.

Importance, location, organization of cottonseed and cottonseed products industries, supply, markets, costs, market organization and trade procedures in marketing cottonseed products, prices of cottonseed products and cottonseed. Distances mills ship cottonseed cake and meal, distance crushers go to obtain cottonseed, cottonseed oil output, production, stocks of crude and refined oil. Includes prices of prime summer yellow refined oil.

173. Fetrow, W. W., McVey, D. H., and Scearce, J. L PROCESSING AND MARKETING COTTONSEED COOPERATIVELY. U. S. Farmer Coop. Serv. Gen. Rpt. 21, 76 pp., illus. Apr. 1956.

Covers the procurement of cottonseed storage and transportation services, processing of cottonseed, the production, utilization, and marketing of cottonseed products, and the business operations of cooperatives. Operating costs show a breakdown between manufacturing costs, and general and administrative expenses.

174. Hudson, J. F. MARKETING OF COTTONSEED IN LOUISIANA. La. Agr. Expt. Sta. Bul. 400, 26 pp., illus. 1946.

Farm income from cottonseed 1928 to 1943, pounds of product obtained 1928-43, location of gins and number of farms included by cotton grade and staple districts, proportion of cottonseed sold, time of sale. Price margins (1928-43) between farm and mill, data on selling cottonseed, prices and costs of cooperative mills. Comparison of weights calculated at gins as compared to those at oil mills, methods used by ginners to calculate the weight of cottonseed bought, methods of making settlement for cottonseed for crop year 1943-44.

175. Jackson, D., and Spilsbury, C. C. DISTRIBUTION OF MARKETING AND PROCESSING COSTS OF COTTONSEED-OIL MILLS, 1947-48. U. S. Prod. and Mktg. Adm., 88 pp., illus. May 1950.

Cost data include labor, power, light and heat, repair, sales and package, and seed costs. Indicates regional differences and gives management and differential returns.

176. Kromer, G. W., and Smith, T. B. COTTONSEED OIL MILL CHARACTERISTICS AND MARKETING PRACTICES. U. S. Prod. and Mktg. Adm., Agr. Inform. Bul. 79, 35 pp., illus. Dec. 1951.

Number of mills crushing cottonseed by quantity of cottonseed crushed 1925 to 1948 by crop year, estimated crushing capacity in U. S. by geographical areas, the yield of cottonseed products per ton of cottonseed crushed by areas, operating practices and costs. Costs include labor, fuel, and material, wage rates by geographical regions, cottonseed freight rates per ton on carlot shipment from Memphis, Tenn., to selected points for 1938, 1948, and 1950.

177. Moffett, W. W., Jr., and Christian, W. E., Jr. A STUDY OF THE COSTS OF PROCESSING SEED IN MIS-

SISSIPPI. Miss. Agr. Expt. Sta. Bul. 528, 26 pp, illus. Feb. 1955.

Data from 9 plants on costs of operating various types of seed processing equipment and the processing equipment suitable for different sized plants. Labor costs for performing receiving, processing, and shipping, and fixed costs chargeable to seed processing operation, overhead labor costs in 1952, investment costs per hour of machine operation at different levels of capacity.

178. SABIN, A. R. FARM TO MILL MARGINS FOR COTTONSEED AND COTTONSEED PRODUCTS IN TENNESSEE, September 1946–July 1950. U. S. Bur. Agr. Econ. Agr. Inform. Bul. 61, 16 pp., illus. June 1951.

Describes cottonseed production and disposition, 1946–49, ginners' function in marketing cottonseed, mill receipts, price per ton received by farmers, ginners' margins, mill margins, and transportation.

179. SPILSBURY, C. C. MARKETING AND PROCESSING COSTS OF COTTONSEED OIL MILLS IN THE POSTWAR PERIOD, 1946–47 to 1950–51. U. S. Prod. and Mktg. Adm. 61 pp., illus. May 1952. (Mimeo.)

Trends in processing and marketing costs, variation in processing costs and volume of crushings in relation to processing costs, instability of processing costs, and effects of processing and marketing cost variation

180. WEAVER, O. T., and FETROW, W. W. COSTS AND MARGINS OF COOPERATIVE COTTON GINS. U. S. Farm Credit Admin. Bul. 67, 87 pp., illus. May 1951.

Data cover 1947–48 and 1948–49 seasons on revenues from ginning and conditioning, revenue from margins on cottonseed and cotton, and expense items which cover costs of bagging and ties, salaries and wages, power and fuel, insurance and taxes. Cottonseed margins have breakdown of average margin per bale ginned ranging from less than a dollar to more than $8 and the size of the margins as found in the main producing areas.

181. WHITTEN, M. E., and STEVENSON, J. H. THE MARKETING OF COTTONSEED. U. S. Prod. and Mktg. Admin., 63 pp., illus. Nov. 1949 (Mimeo.)

Relationship of gins to cottonseed oil mills, proportion of cottonseed marketed by gins, special price allowances made by ginners, types of storage houses at gins, transportation of cottonseed away from gins, and costs of marketing for the ginner as well as regional costs of transportation of cottonseed by rail or truck.

FATS AND OILS (MISCELLANEOUS)

182. CLIFTON, E. S., KASTELIC, J., and LOWE, B. RELATIONSHIPS BETWEEN LARD PRODUCTION METHODS VOLUMES OF PRODUCTION, COSTS AND CHARACTERISTICS OF LARD PRODUCED IN SELECTED PACKING PLANTS IN IOWA. Agr. Expt. Sta., Iowa State Col. Res. Bul. 432, pp. 573–595, illus. Oct. 1955. (In cooperation with U. S. Agr. Mktg. Serv.)

Data on costs of producing lard by different methods. These costs are related to different characteristics of the product and are shown for labor, equipment, building, administration, processing, packaging and labor for different sized plants.

183. FARNWORTH, V. and JACKSON, D., MARKETING MARGINS FOR SOYBEAN AND COTTONSEED OILS USED IN MARGARINE AND SHORTENING. U. S. Agr. Mktg. Serv. (In preparation.)

184. FARNWORTH, V., JACKSON, D., and SPILSBURY, C. C., MARKETING MARGINS FOR SOYBEAN AND COTTONSEED OILS USED IN MARGARINE AND SHORTENING. U. S. Agr. Mktg. Serv., AMS 109, 8 pp. Jan. 1956.

Changes in marketing margins between 1940 and 1950 and between 1945 and 1955 for soybean and cottonseed oils. Description of marketing channels and services performed in the manufacture and distribution of soybeans and cottonseed consumed in the form of margarine and shortening for 4 consuming areas (New York, Atlanta, Chicago, and Los Angeles). Compares the farm value of the oil in the seed with the retail value of oil in margarine and shortening at the various steps in the marketing channel. Reports farm value of soybean oil in Illinois, Iowa, and Ohio, and farm value of cottonseed in Georgia, Mississippi, Texas, and California. The second publication summarizes much of the information found in the longer publication.

185. WALSH, R. M. CEILING PRICE REGULATION. CPR 6 and Amendments, Office of Price Stabilization, Econ. Stabilization Agency, illus. 1951.

Ceiling Price Regulation 167, Office of Price Stabilization, Economic Stabilization Agency. Various ceiling prices on cottonseed oil, corn oil, shortening, salad and cooking oils, tallows and greases during the Korean crisis. Miscellaneous data on transportation rates and storage rates.

SOYBEANS

186. ABSHIER, G. S., BYER, E. G., and WOOD, G. B. A FINANCIAL AND BUSINESS ANALYSIS OF INDIANA GRAIN ELEVATORS. Ind. Agr. Expt. Sta. Bul. 547, 39 pp. Feb. 1950.

Material deals with factors which affect earnings, variations in earnings, increasing importance of services, financial conditions and business policies practiced by elevators. Normal margins on soybeans at 79 elevators as well as gross margins on soybeans for 1943–45. Estimated grain cleaning charges and estimated costs of manufacturing feed.

187. AGNEW, D. B., and KEIRSTEAD, C. H. CASH COSTS OF STORAGE IN MARKETING SOYBEANS. U. S. Prod. and Mktg. Admin., 62 pp., illus. Sept. 1950.

Data for 1949 cover cost of interest, insurance, and taxes incurred in storing beans, and loans available.

188. BREWSTER, J. M., MITCHELL, J. A., and CLARK, S. P. SIZE OF SOYBEAN OIL MILLS AND RETURNS TO GROWERS. U. S. Agr. Mktg. Serv., Mktg. Res. Rpt. 121, 99 pp., illus. Nov. 1956.

Contains data for 1952–53 season on transportation charges, acquisition and delivery costs per bushel of beans, costs involved in plant operation for meal and oil production, labor involved in handling and storing soybeans, distribution of processing costs and returns by size of mill. Compares the costs of operating mills with capacities of 50, 100, 400, and 1,000 tons of beans a day. Effects of change in size of mill upon cost and revenue per bushel of beans per dollar of investment were calculated through use of model mills.

189. COX, REX. MINNESOTA COOPERATIVE ELEVATOR ASSOCIATIONS. Minn. Agr. Expt. Sta. Bul. 407, 35 pp., illus. Feb. 1951.

An account of elevator operations, the financial structure and business policies followed by managers. Contains tables on gross margins for soybeans and other grains for 1947–1949.

190. GOLDBERG, R. A. THE SOYBEAN INDUSTRY. Univ. Minn. Press, Minneapolis, Minn., 186 pp. 1952.

Data on processing industry, transportation, prices, crushing margins, marketing channels, available storage, prices of crude oil, and elevator ceiling prices. Data on crushing margins for Minnesota, Illinois, and Iowa. 1940–51.

191. HALL, T. E., HICKS, J. W., DAVIS, W. K., and COATS, N. WHERE AND HOW MUCH CASH GRAIN STORAGE FOR INDIANA FARMERS. U. S. Farm Credit Admin. Bul. 68, 46 pp., illus. Apr. 1952. (In cooperation with Purdue University.)

Farm storage costs for soybeans (fixed and variable) compared with average commercial elevator storage costs, 1949.

192. HALL, T. E. CHANGING GRAIN STORAGE COSTS, FARM VS. ELEVATOR. U. S. Farmer Coop. Serv. Cir. 6, 17 pp., illus. Apr. 1954.

Farm storage costs for soybeans compared with elevator storage cost. Fixed and variable farm cost vs. elevator rates, 834 farmers and 207 elevators.

193. HALL, T. E. NEW COUNTRY ELEVATORS; INFLUENCE OF SIZE AND VOLUME OF OPERATING COSTS. U. S. Farmer Coop. Serv. Cir. 10, 27 pp. June 1955.

Data on storage, fixed and variable costs, fluctuating plant costs, costs per bushel for handling functions in wheat storage. Analysis of annual fixed expenses.

194. HEDLUND, E. C. TRANSPORTATION ECONOMICS OF THE SOYBEAN PROCESSING INDUSTRY. Univ. Ill. Press, 196 pp. 1952.

Soybean industry, application of in-transit theory to the soybean industry, comparison of rail transportation rates for soybeans, soybean oil, and soybean meal between processing points in 4 leading soybean producing States, 1950–51–52.

195. KEIRSTEAD, C. H. MARKETING STUDY OF FACTORS AFFECTING THE QUANTITY AND VALUE OF PRODUCTS OBTAINED FROM SOYBEANS. U. S. Prod. and Mktg. Admin., 35 pp., illus. June 1952.

Variation in oil content of soybeans, values of oil and meal per bushel of soybeans by different methods and costs of processing, average oil content, quality and price relationships of soybeans for 1949 and 1950 crops in Illinois and Indiana.

196. MOORE, C. R., and MORRISON, W. R. SOYBEAN STORAGE IN ARKANSAS; FACILITIES, OUTLOOK, AND TRANSPORTATION FACTORS. Ark. Agr. Expt. Sta. Rpt. Series 41, 29 pp. May 1954.

On and off farm storage situation in 1952 for 25 leading soybean producing counties. Capacity of country elevators and buying stations for 1953, and freight rates.

197. MORRISON, W. R. COSTS AND USE OF STORAGE FOR SOYBEANS, OATS, AND WHEAT IN ARKANSAS. Ark. Agr. Expt. Sta. Bul. 562, 27 pp. Dec. 1955.

Data on production of soybeans by size of farm, labor, and transportation of soybeans, costs per bushel based on interview of 56 farmers for 1953. Covers shrinkage, conditioning, treating, insurance, taxes, interest. Graph on p. 22 compares average farm storage costs and elevator storage charges for soybeans for 1953.

198. MUTTI, R. J., STICE, L. F., NORTON, L. J., and STEVENSON, E. V. BUSINESS ANALYSIS OF FARMERS GRAIN ELEVATORS, 1945. Univ. Ill. Dept. Agr. Econ. 21 pp., illus. July 1947.

Data on gross margins realized, merchandise handled by farmers' grain elevators, distribution of expenses among different types of elevators, services performed, and general information on elevators.

199. MUTTI, R. J., SCHUMAIER, C. P., and STICE, L. F. BUSINESS ANALYSIS OF COUNTRY GRAIN ELEVATORS IN ILLINOIS, 1949–1950. Univ. Ill. Col. Agr., 33 pp. Aug. 27, 1951.

Data on distribution of operating expenses which cover management and labor, physical plant, office and records, and general expenses. Soybeans are considered part of grains stored. 1949–50.

200. PAARLBERG, DON. PRICES OF SOYBEANS AND SOYBEAN PRODUCTS. Ind. Agr. Expt. Sta. Bul. 538, 47 pp. Sept. 1949.

Material deals with trend, seasonal variation, geographic differentials, marketing margins, factors which affect annual prices for soybeans, soybean meal, and soybean oil. 1920–1950. Appendix contains numerous tables concerning percentage variation of soybean oil prices and various other factors mentioned above.

201. PHILLIPS, T. D. GRAIN STORAGE AND MARKETING FACILITIES IN MISSISSIPPI. Miss. Agr. Expt. Sta. Bul. 538, 46 pp., illus. Oct. 1955.

Contains CCC storage rates and estimates of average annual fixed storage costs by size of facility. 1954.

202. SABIN, A. R. MARKETING CHANNELS AND MARGINS FOR SOYBEANS AND SOYBEAN PRODUCTS IN ILLINOIS, crop years 1947 and 1948. U. S. Bur. Agr. Econ., 24 pp., illus. Oct. 1950.

Data on marketing channels for soybeans, movement, country elevator operations, and processing of soybeans, covering costs of acquisition, methods of processing, and processor margins.

203. SPILSBURY, C. C. PROCESSING COSTS OF SOYBEAN OIL MILLS, 1951–52 AND 1952–53. U. S. Agr. Mktg. Serv. 15 pp. May 1954. (Mimeo.)

Processing costs are compared by type of processing and by seasons. Total processing costs include acquisition, current operating, fixed and general, sales and package costs.

PEANUTS

204. AGNEW, D. B., and JACKSON, D. STORAGE IN MARKETING FARMERS' STOCK PEANUTS. U. S. Agr. Mktg. Serv. Mktg. Res. Rpt. 88, 55 pp., illus. Apr. 1955.

Storage facilities and practices, costs of handling and storing peanuts, losses in storing and handling at first buyer in southeastern and southwestern United States. Costs cover both fixed and variable.

205. MODER, J. J., JR., and PENNY, N. M. INDUSTRIAL ENGINEERING AND ECONOMIC STUDIES OF PEANUT MARKETING. Ga. Eng. Expt. Sta. Bul. 286, illus. Dec. 1954. (In cooperation with Ga. Agr. Expt. Sta.)

Appendix contains tables on prices of Spanish and Runner peanuts. Labor costs, manufacturing costs of different sized plants, depreciation, insurance, etc.

206. PENNY, N. M. ECONOMIC ASPECTS OF PEANUT MARKETING. Ga. Agr. Expt. Sta. Bul. 273, Illus. July 1952.

Describes supply, prices, value, and utilization of peanuts, methods and practices, receiving, shelling plant capacity, milling turnout, and costs of shelling plants. Discusses distance peanuts are hauled to market, grade factors, and damage. Gives capacity of 58 peanut shelling plants, 1911–1947, and investment costs of 6 shelling plants in 1947. Covers also average fixed cost per ton for interest, depreciation, taxes, salaries, insurance, other labor costs in picking, storing, and shelling in 1947.

SUGAR

207. CAMPBELL, J. R., and EFFERSON, J. N. COSTS AND RETURNS OF OPERATING RAW SUGAR MILLS IN LOUISIANA, 1953 CROP YEAR. La. Agr. Expt. Sta. Cir. 173, 56 pp., illus. Feb. 1955.

Cost and returns per ton of cane ground, per mill. Volume of sugar manufactured as related to cane ground, per mill and per ton to costs and returns.

208. CAMPBELL, J. R. COSTS AND RETURNS OF OPERATING RAW SUGAR MILLS IN LOUISIANA, 1954 CROP YEAR. La. Agr. Expt. Sta. Cir. 189, 26 pp., illus. June 1956.
Costs include general overhead, procurement of cane, manufacture of sugar, selling and interest, net costs of raw sugar, operating expenses, net operating income, and net income. Data for 1952 and 1953 given for comparative purposes.

209. CAMPBELL, J. R. MAN-HOURS, RETURNS, COSTS, AND PROFITS OF RAW SUGAR MILLS IN LOUISIANA, 1952, 1953, and 1954. La. Agr. Expt. Sta. Cir. 197, 20 pp., illus. Nov. 1956. (In cooperation with U. S. Dept. Agr., Commodity Stabilization Serv.)
Income from raw sugar sales, molasses, and bagasse sales and various costs that enter into the production of sugar. Cane acquisition and mill costs. Man labor costs per mill by operations.

210. DURKIN, M. P., and CLAGUE, E. CASE STUDY DATA ON PRODUCTIVITY AND FACTORY PERFORMANCE . . . BEET SUGAR REFINING. U. S. Dept. Labor, BLS, Rpt. 6, 84 pp., illus. Feb. 1953.
Comparison between plants on operation, processes, and man-hour requirements. Beets sliced, sugar in beets, tons of sugar produced, tons of pulp produced, tons of molasses, employees by occupation, hourly rates for employees, and fringe payroll benefits for employees.

211. EFFERSON, J. N., and COBB, M. FINANCIAL RESULTS OF THE OPERATION OF RAW SUGAR MILLS IN LOUISIANA, 1937 TO 1949 La. Agr. Expt. Sta. Bul. 457, 34 pp., illus. June 1951.
Average volume of cane ground and raw sugar manufactured, average net returns from raw sugar production, costs and returns per ton of cane ground by sugar mills, costs and returns per 100 pounds of sugar manufactured, 1937–49.

212. JACKSON, D., DELOACH, D. B., and KINZHUBER, R. J. MARKETING SUGAR BEETS. U. S. Agr. Mktg. Serv. Bul. 137, 31 pp., illus. Nov. 1956.
Contains data on processor's payments to growers for beets in the western area for 1955. Quantities of beet sugar delivered in various States expressed as percentages of total sugar deliveries, 1954. Returns on sales of beet sugar, and comparison with raw and refined sugar prices. Division of net returns between sugar beet growers and processors.

213. POATS, F. J. MARKETING LIQUID SUGAR. U. S. Prod. and Mktg. Adm., Mktg. Res. Rpt. 52, 76 pp., illus. June 1953.
Production, distribution, use, freight rates, and potential markets for liquid sugar. Amount of liquid sugar used by each type of market 1949–1952.

214. RAUCHSCHWALBE, OTTO. GROWER'S SHARE AND MARKETING MARGINS FOR SUGAR.U. S. Dept. Agr., Commodity Stab. Serv., Sugar Report 57, Jan. 1957.
Study of processing, refining, distributing, costs and margins for cane and beet sugar. 1937–1955.

215. TURNER, J. T. MARKETING OF SUGAR. Ind. Univ. School of Business, Study 38, 302 pp., illus. Dec. 1954.
Discusses sugar deliveries by types of product, proposed marketing quotas, warehouse storage and handling rates, refined and raw sugar price structure, Sugar Act payments, beet sugar market and sugar contracts.

216. WILSON, E. B. THIS IS LIQUID SUGAR. Refined Syrups and Sugar, Inc., New York. 205 pp., illus. 1955.
Data on distribution of liquid sugar, liquid sugar systems, liquid sugar pricing, cane refineries spreads, and the United States Sugar Act.

FRUITS AND VEGETABLES

ASSEMBLING AND TRANSPORTING

217. BREAKIRON, P. L. and HOECKER, R. W. A COOPERATIVE STUDY OF PACKING, TRANSPORTATION, AND REFRIGERATION COSTS OF BUSHEL BASKETS AND WIREBOUND BOXES FOR TRANSPORTATION OF PEACHES. U. S. Prod. & Mktg. Admin. 22 pp., illus. Feb. 1950.
Deals with loading patterns in railroad cars to minimize container breakage. Presents the cost of shipping peaches by rail for bushel baskets and wirebound boxes. Shipments were from Inman, S. C. and Macon, Ga. to New York City, Pittsburgh, Pa., and Chicago, Ill., from June to August of 1948.

218. HALL, C. R. MARKETING NEW MEXICO VEGETABLES. N. Mex. Agr. Expt. Sta. Press Bul. 1075, 26 pp., illus. Dec. 1952.
Describes methods of marketing used by New Mexico vegetable growers for each commodity, and the marketing charges incurred by growers for onions, tomatoes, cantaloupes, and lettuce. Gives the opinion of New Mexico fresh produce handlers on selling New Mexico produce locally. This study began in 1950.

219. HOECKER, R. W. and WALDO, R. K. POST-WAR AIR-TRANSPORT COSTS AND MARKETS FOR LETTUCE. Rand McNally & Co., 35 pp., illus. July 1944 (U. S. Bur. Agr. Econ. and Edward S. Evans Transportation Res., cooperating).
Estimates potential costs for shipping lettuce by air from California to Detroit, Mich. Several test flights were made in June 1944 to determine the acceptability and possible price differential for air freighted lettuce.

220. LANGFORD, W. B. and NEAL, J. D. SOME ASPECTS OF THE PROBLEM OF TRANSPORTING FRESH VEGETABLES FROM TEXAS. Tex. Engin. Expt. Sta. Bul. 118, 62 pp., illus. June 1950.
Explores the contention that rail shipping rates from Texas points are inequitable with those of other shipping points. Compares rail rates and mileage from Harlingen, Tex. with Salinas, Calif., Phoenix, Ariz., and Grants, N. Mex., for carrots, cabbage, lettuce, onions, tomatoes, potatoes, and mixed vegetables shipped to various major cities. Data are for 1949. Outlines a proposed rate structure.

221. LIMMER, EZEKIEL. RAILROAD AND TRUCK RATES AND MOVEMENTS OF FRESH FRUITS AND VEGETABLES FROM FLORIDA. U. S. Agr. Mktg. Serv. AMS 53, 27 pp., illus. June 1955.
Discusses rail and truck rates for fruits and vegetables shipped from Florida. Shows for 8 Florida commodities shipped to 17 major cities by rail and truck; the rates, refrigeration, and cartage per 100 pounds; unloads; mileage; usual refrigeration method and rate, and freight weight per rail car; and intercity cartage costs by container and hundredweight. Data are for 1952. The commodities are snap beans, cabbage, celery, green corn, grapefruit, oranges, potatoes, and tomatoes.

222. MASTERS, B. M., WINTER, J. C. and ROSANOFF, B. P. POTENTIAL SAVINGS BY SHIPPING CAULIFLOWER IN DOUBLE LAYER PACKS. U. S. Agr. Mktg. Serv. Mktg. Res. Rpt. 78, 16 pp., illus. March 1955 (in cooperation with Western Growers Assoc.)
Compares the per head costs for shipping cauliflower in single and double layer packed crates from Santa Maria, Calif. to New York City in 1953. Shows per crate costs for refrigeration, freight, packing, and containers for cauliflower from 1942 to 1952.

223. Samuels, J. K. and Hamilton, H. G. COSTS AND METHODS OF OPERATION OF DEALERS SUPPLYING CANNERS WITH CITRUS FRUIT, 1944–45 SEASON. Fla. Agr. Expt. Sta. Spec. Rpt., 18 pp. Dec. 1946 (U. S. Farm Credit Admin. cooperating).

A study of Florida citrus fruit dealers who purchase from growers or packinghouses and sell to canners. Shows average gross and net margins and expenses per dealer and per box by type of fruit. Costs per box for picking and hauling grapefruit and oranges are shown for purchase and contract arrangements. Reports kind and investment of equipment by dealers.

224. Seltzer, R. E. BULK-HANDLING COMPARED WITH THE USE OF FIELD BOXES IN THE HARVESTING OF DESERT GRAPEFRUIT. Ariz. Agr. Expt. Sta. Rpt. 89, 10 pp., illus. March 1949.

Describes advantages of bulk handling over the field box method of handling and shows the approximate savings to a packinghouse using the bulk method. Gives picking and hauling costs per box for the 1943–44, 1944–45, and 1945–46 seasons using the field box system and for 1946–47 and 1947–48 seasons using the bulk handling systems. Grapefruit packinghouses were in Yuma, Ariz.

225. Snitzler, J. R. MOVEMENTS, FREIGHT RATES, AND PRICES OF POTATOES; RECENT TRENDS FOR NINE MAJOR MARKETS. U. S. Agr. Mktg. Serv. 62 pp., illus. Nov. 1953.

Contains index numbers of rail freight rates for potatoes and index numbers of wholesale prices of potatoes for nine major markets separately. Compares these indexes for the nine markets combined. Period covered is 1946–53. Base period is 1947–49.

226. Spurlock, A. H. COSTS OF PICKING AND HAULING FLORIDA CITRUS FRUITS 1954–55 SEASON. Fla. Agr. Expt. Sta., Agr. Econ. Mimeo. Rpt. 56-6, 17 pp. Jan. 1956.

Costs of handling oranges, grapefruit, and tangerines from the tree to the packinghouse or processing plant are summarized for 37 firms by type of fruit. Separate costs are itemized on a per box basis. Earlier reports with the same title cover similar material. By seasons these are: 1951–52 Mimeo. Rpt. 53-2; 1952–53 Mimeo. Rpt. 54-13; 1953–54 Mimeo. Rpt. 55-5.

227. Voegel, L. U., White, E. F., Masters, B. and Breakiron, P. L. PACKING AND SHIPPING LETTUCE IN FIBERBOARD CARTONS AND WOODEN CRATES, A COMPARISON. U. S. Agr. Mktg. Serv. Mktg. Res. Rpt. 86, 30 pp., illus. April 1955.

Describes harvesting and packing methods used when handling iced wooden crates and vacuum cooled cartons for lettuce. Compares harvesting, packing, and administrative costs; and shows packing and shipping charges from El Centro and Salinas, Calif., to New York City and St. Louis, Mo., by method of pack, 1952 season.

228. Winter, J. D., Nylund, R. E. Cox, R. W. and Vandemark, J. S. MARKETING FRESH SWEET CORN IN THE MIDWEST. Minn. Agr. Expt. Sta. Bul. 427, 28 pp., illus. June 1954. (North Central Reg. Pub. No. 45).

Test marketings of precooled and non-precooled in-husk and prepackaged precooled husked fresh sweet corn from the 1950, 1951 and 1952 crops were conducted to determine the value of such practices. Attention is given to handling and selling costs and net retail margins with comparisons by type of handling method. The study was conducted in Minnesota and Indiana.

PACKING AND PACKAGING

229. Bere, R. L. and Cravens, M. E. LABOR AND MATERIAL COSTS AND MACHINERY INVESTMENT IN APPLE GRADING AND PACKING, 30 OHIO APPLE GROWERS, 1954–1955 Ohio Agr. Expt. Sta. Agr. Econ. 256, 19 pp. Aug. 1955.

Shows costs of packing apples in bushel and prepackaged units by 30 Ohio growers from the 1954 crop.

230. Carlson, E. W. and Stokes, D. R. PREPACKAGING APPLES AT POINT OF PRODUCTION. U. S. Dept. Agr. Inform. Bul. 29, 52 pp., illus. Jan. 1951 (Wash. State Apple Adver. Comm. and U. S. Prod. & Mktg. Admin. cooperating).

Examines tested methods used for prepackaging apples in the Pacific Northwest for the 1949 and 1950 seasons. Reports on the sales and acceptability of these in various cities. Compares the costs for bagging apples by five methods in 3- and 4-pound film bags. Shows sales, retailers' costs, and margin for prepackaged and bulk apples sold in selected stores in Chicago, Kansas City and Los Angeles in February–April of 1950.

231. Capel, G. L., Coryell, J. and Samuels, J. K. ANALYSIS OF PACKINGHOUSE COSTS FOR 31 SOUTHERN CALIFORNIA CITRUS ASSOCIATIONS, 1946–47 AND 1947–48 SEASONS. U. S. Farm Credit Admin. Spec. Rpt. 214, 21 pp., illus. Aug. 1950.

Determines the cost per box for oranges by method of handling and itemizes costs of labor, administrative and other packinghouse expenses. Analyzes costs by size of operation and functions.

232. Capel, G. L. and Preston, H. J. COST OF PREPACKAGING POTATOES IN MAINE, MICHIGAN, AND PENNSYLVANIA. U. S. Farm Credit Admin. Misc. Rpt. 163, 21 pp., illus. March 1952.

Shows the cost of packing potatoes in various size containers for grower-packers and centralized packers in the 1950–51 season. Volume of pack, value of equipment and labor requirements are shown for the 19 packers studied.

233. Carlson, E. W., Hunter, D. L., Duerden, R. S., and Herrick, J. F. APPLE HANDLING METHODS AND EQUIPMENT IN PACIFIC NORTHWEST PACKING AND STORAGE HOUSES. U. S. Dept. Agr. Mktg. Res. Rpt. 49, 302 pp., illus. June 1953. (Contract with Wash. State Apple Comm.)

A guide manual for operators of apple or other fruit packing and storage houses. Outlines various materials handling methods by types of equipment used giving the machine and labor requirements. Shows comparative costs for production labor and equipment by type of handling method. The study was made in 32 Washington State apple packing and storage plants in 1952. Shows cost of ownership and operation of facilities and equipment per year and per hour of use.

234. Davis, G. B. and Martin, L. C. PACKAGING LATE CROP POTATOES AT SHIPPING POINT AND AT TERMINAL MARKET. Oreg. Agr. Expt. Sta. Bul. 527, 19 pp., illus. Oct. 1952 (U. S. Bur. Agr. Econ. cooperating).

Compares costs and quality of product for packaging potatoes in 10-pound mesh bags at either the shipping point or at the terminal market. A test of 13 shipments from Klamath County, Oregon was sent to the San Francisco–Oakland markets, Calif., in the 1950–51 season.

235. Fugett, K. A. FACTORS AFFECTING COSTS OF MARKETING GREEN WRAP TOMATOES IN TEXAS. Tex. Agr. Expt. Sta. Prog. Rpt. 1127, 4 pp. July 1948.

Reports in detail the average cost per lug for packing 405 carloads of green wrap tomatoes from 12 packinghouses during the spring season of 1947. Gives a breakdown of gross receipts and the returns to the grower.

236. Hamilton, H. G. and Samuels, J. K. COST OF HANDLING FLORIDA CITRUS FRUIT IN PROCESSED AND FRESH

FORM 1944-45 SEASON. Fla. Agr. Expt. Sta. Spec. Rpt. 19 pp. Oct. 1946 (U. S. Farm Credit Admin. cooperating).

Shows the cost of: processing and selling citrus juices, and packing and selling fresh citrus by type of firm, type of fruit, and type of container; and picking and hauling citrus to the packinghouse cannery by type of fruit.

237. HARRIS, R. G. and LEE, W. A. EFFECTS OF METHODS OF PACKAGING APPLES ON COSTS AND RETURNS TO PENNSYLVANIA GROWERS, 1954 Pa. Agr. Expt. Sta. Prog. Rpt. 141, 6 pp., illus. Oct. 1955.

Observations from packers in Pennsylvania from September 1954 to January 1955 show the cost of packing apples, in five types of wholesale containers and in three types of consumer units using various packaging methods and equipment.

238. LEE, W. A. and CARROLL, W. M. EFFECTS OF METHODS OF PACKAGING APPLES ON RETURNS TO PENNSYLVANIA GROWERS, 1953. Pa. Agr. Expt. Sta. Jour. Series 1938, 62 pp., illus. undated (U. S. Agr. Mktg. Serv. cooperating).

Compares labor packing costs and material costs for packing apples in northwest wrap and count boxes with ring-faced bushel baskets for 12 packers in Franklin County, Pa., for the 1953 packing season. Also gives costs for apples packed in less popular containers, for apples processed and for cider. Reports returns received at the packinghouse door for the various packing methods.

239. LIBEAU, C. P. and BIRD, K. M. AN ANALYSIS OF POTATO PACKING COSTS IN IDAHO, 1950-1951 SEASONS. Idaho Agr. Expt. Sta. Bul. 208, 20 pp. Apr. 1954.

Shows labor requirements and costs for containers, hauling, packing, and overhead for Idaho potato packing firms. Compares contract labor and hourly labor, and the effect on packing costs for handling potatoes in bulk or rough graded from the grower.

240. PETERS, C. W. COSTS OF MARKETING CAROLINA PEACHES IN 1954. U. S. Agr. Mktg. Serv. Mktg. Res. Rpt.103, 22 pp., illus. Aug. 1955.

Shows the cost of packing peaches in 14 North Carolina and South Carolina packinghouses in July 1954. Packs in one bushel and ¾ bushel tub baskets are compared. Transportation, handling and selling costs are given from packinghouse to initial point of delivery at the receiving market.

241. POWELL, J. V. THE COST OF PACKING COLORADO PEACHES. West. Colo. Hort. Soc. Proc., 17th Ann. Conv. Dec. 14-15, 1956, pp. 69-73. 1957.

Shows costs for labor, overhead and materials for packing peaches in Mesa County, Colorado during Aug. 1956. The study from which this article is based will be reported by the U. S. Agr. Mktg. Serv.

242. PERRY, A. COMMERCIAL WASHING OF POTATOES. Maine Agr. Expt. Sta. Bul. 509, 19 pp., illus. Jan. 1953.

Explores consumer acceptance of washed potatoes marketed under commercial conditions. Estimates cost for washing and drying Maine potatoes in the 1951-52 season.

243. RASMUSSEN, M. P., SMITH, ORA and JOHNSON, J. R. AN ECONOMIC STUDY OF RETAIL MARKETING OF POTATOES GRADED BY SPECIFIC GRAVITY. N. Y. (Cornell) Agr. Expt. Sta. Agr. Econ. 841, 23 pp. Sept. 1952.

An experiment in selling potatoes graded by specific gravity in Syracuse, New York, 1951-52 season. Estimates costs of separating potatoes by the specific gravity process.

244. SHAFFER, P. F. and ANDERSON, D. L. SOME COMPARATIVE METHODS OF PACKAGING POTATOES AND ONIONS AT THE POINT OF DISTRIBUTION. U. S. Agr. Mktg. Serv. 12, 14 pp., illus. Jan. 1955.

Compares 6 methods in the retail store and two methods at the central warehouse for packaging consumer units. Shows costs of packaging potatoes in 10 pound bags for each method.

245. SORENSEN, H. B., MAYES, H. M. and BAKER, C. K. COST OF HANDLING TEXAS CITRUS, FRESH AND PROCESSED, 1950-51 SEASON. Tex. Agr. Expt. Sta. Prog. Rpt. 1485, 13 pp. Aug. 1952.

Costs of operations in 12 packinghouses and 8 canneries for handling oranges and grapefruit of the lower Rio Grande Valley in Texas. Cost figures reflect the effect of a disastrous freeze which occurred in the 1950-51 marketing season.

246. SORENSEN, H. B. PACKING EAST TEXAS TOMATOES FOR SHIPMENT, 1952. Tex. Agr. Expt. Sta. Prog. Rpt. 1530, 4 pp. Jan. 1953.

Reports on volume of shipments, types of containers, and use of labor for East Texas tomato shippers. Itemizes average cost per lug in shipping and marketing East Texas tomatoes at New York City auction for 1951.

247. SORENSEN, H. B. and HUDSON, A. C. SOME PROBLEMS OF TEXAS TOMATO REPACKERS. Tex. Agr. Expt. Sta. Prog. Rpt. 1881, 6 pp. July 1956.

A study of repack operations for green wrap tomatoes was made in Dallas, San Antonio, Houston and Lower Rio Grande Valley from 1950 through 1953. Shows repacking labor cost by type of employee in a typical Texas repack operation for each of the four years. Also gives total cost per pound of handling repack tomatoes.

248. SPURLOCK, A. H. COSTS OF PACKING TOMATOES, F. O. B. PRICES, AND RETURNS TO GROWERS, BY CONTAINERS. Fla. Agr. Expt. Sta. Agr. Econ. Series 52-11, 20 pp., illus. Oct. 1952.

Determines from 16 packinghouses the costs and labor requirements for packing Florida green wrap tomatoes in various containers for the 1950-51 season. Shows prices and returns to one firm by type of container for the 1949-50 season.

249. TENNANT, J. L., HAMILTON, H. G., SORENSON, H. B., BAKER, C. K. and SAMUELS, J. K. COST OF HANDLING FLORIDA AND TEXAS CITRUS FRUITS IN FRESH AND PROCESSED FORM, 1950-51. Fla. Agr. Expt. Sta. Agr. Econ. Series 52-5, 59 pp. June 1952 (Tex. Agr. Expt. Sta. and U. S. Farm Credit Admin. cooperating).

Earlier annual reports of the same title cover the seasons 1946-47 through 1949-50. The "Cost of Handling Texas Citrus, Fresh and Processed, 1946-47" season appears in Tex. Agr. Expt. Sta. Bul. 709, 23 pp., illus. June 1949. See Thor and Spurlock below for complete annotation.

250. THOR, ERIC; SPURLOCK, A. H.; HAMILTON, H. G.; BAKER, C. K. and SAMUELS, J. K. COST OF HANDLING FLORIDA CITRUS FRUIT IN FRESH AND PROCESSED FORM, 1952-53. Fla. Agr. Expt. Sta. Agr. Econ. Mimeo. Rpt. 54-14, 35 pp., illus. May 1954 (U. S. Farmer Coop. Serv. cooperating).

Florida Agricultural Experiment Station, Agr. Econ. Mimeo. Rpt. 54-5 with this same title gives data for 1951-52 season. See Thor and Spurlock below for complete annotation.

251. THOR, ERIC and SPURLOCK, A. H. COST OF PACKING AND SELLING FLORIDA FRESH CITRUS FRUITS, 1954-55. Fla. Agr. Expt. Sta. Agr. Econ. Mimeo. Rpt. 56-5, 24 pp., illus. Jan. 1956.

Another report with the above same title, (Mimeo. Rpt. 55-4) covers the 1953-54 season. Reports included in the last three citations give packing and selling costs on the basis of a 13/5 bushel box or equivalent for fresh oranges, grapefruit and tangerines. Reports included under Tennant, et. al. and Thor, Spurlock, et. al. Also gives processing, warehousing and selling costs for canned citrus juices, citrus sections, and frozen orange concentrate.

PROCESSING

252. Kaufman, V. F. COSTS AND METHODS FOR PIE-STOCK APPLES. Food Engineering, 23:12:97–105. Dec. 1951.

    Comparative data covering various ways of preparing western apples for use by eastern processors include plant investment, labor and processing costs. Processing flow sheets are shown for each method. Processing methods compared are: Kiln dried, vacuum dried, dehydrocanned, canned, dehydrofrozen, frozen—with varying amounts of sugar, and apple slices. Material was collected by Western Reg. Res. Lab., U. S. Bur. Agr. and Industrial Chemistry during the years 1948 and 1949.

253. Mueller, R. W., Kline, G. E. and Trout, J. J. DO YOU REALLY MAKE MONEY ON FROZEN FOODS? Progressive Grocer, pp. 50–56. April 1955.

    A study was made by Progressive Grocer magazine of Food Town Supermarkets in Cleveland, Ohio in April–July 1954. Discusses the importance and profitability of frozen foods sold at retail. Shows the percent retail margin for frozen vegetables, fruit juices, and fruits. Also gives similar information on other frozen foods.

254. National Restaurant Association. WHITE POTATOES: A STUDY OF THE ACTUAL COST OF PEELED POTATOES. Nat. Rest. Assoc., Food & Equip. Res. Dept. Tech. Bul. 101, 4 pp. May 1953.

    Shows labor cost and shrinkage for peeling different size potatoes by the abrasive peeling method. Shows the costs for hand peeling potatoes. The School of Restaurant and Hotel Management at Michigan State College cooperated.

255. Peters, C. W. PRICE SPREADS IN THE MARKETING OF CANNED AND FROZEN FRUITS AND VEGETABLES. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 87:6–16, illus. Aug. 1950.

    Reports marketing margins from processor to retailer for selected commodities of frozen and canned fruits and vegetables in 22 cities for the 1949–50 season. The commodities covered are: canned: clingstone peaches, freestone peaches, Bartlett pears, green beans, sweet corn, green peas, and tomatoes; frozen: peaches, strawberries, baby lima beans, and green peas.

256. Peters, C. W. COSTS OF PROCESSING CANNED AND FROZEN FRUITS AND VEGETABLES. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 96:6–17, illus. May 1951.

    Shows the processor's costs and margins for selected commodities of the national pack for 1948 and 1949 expressed as percentages of the f. o. b. cannery price. Commodities covered are: canned: clingstone peaches, freestone peaches, Bartlett pears, green beans, sweet corn, green peas, and tomatoes; frozen: peaches, strawberries, baby lima beans, and green peas. Reports the marketing margins from the itemized processor's costs to retail for all commodities during the 1949–50 season.

257. Spurlock, A. H.; Hamilton, H. G.; Rust, I. W. and Samuels, J. K. COSTS OF PROCESSING, WAREHOUSING AND SELLING FLORIDA CITRUS PRODUCTS, 1954–55 SEASON. Fla. Agr. Expt. Sta. Agr. Econ. Mimeo. Rpt. 56–11, 12 pp., illus. June 1956 (U. S. Farmer Coop. Serv. cooperating).

    Gives a breakdown of costs to the Florida processor for canned citrus juices, citrus sections and frozen orange concentrate. Major cost categories covered include direct labor, indirect labor, warehouseing and shipping labor, materials, administrative and selling, and other manufacturing costs. Comparable costs are given for the 9 seasons 1946–47 through 1954–55.

    Data for the 1953–54 season, Mimeo. Rpt. 55–10, is reported under this same title. This is a continuation of a series of earlier citrus cost studies reported under the title of "Cost of Handling Florida Citrus Fruit in Fresh and Processed Form.' (See Thor, Spurlock, et. al. in the Packing and Packaging Section.)

258. United States 84th Congress, 1st Session. PRICE SPREADS IN THE CANNING INDUSTRY: STAFF STUDY OF INCOME, COSTS, AND PROFITS IN THE CANNING INDUSTRY FISCAL YEAR 1954-55. U. S. Govt. Printing Off. 69090, 8 pp. Nov. 7, 1955.

    Reports canners costs of packing and selling fruits and vegetables. Gives gross margins and shows profits after taxes in the U. S. for 1954–55 season and some comparisons with 1950–51. Reports gross margins for canners and from canners to consumers in 1955. Gives margins for retail chainstores 1950 and 1955. Specific commodities discussed include canned green beans, tomatoes, corn, peas, peaches, apricots, and Bartlett pears.

WHOLESALING AND RETAILING

259 Anderson, D. L., Wood, C. B., and Gaylord, F. C. APPLE MARKETING METHODS AND MARGINS IN INDIANA. Purdue Univ. Prelim. Rpt., 41 pp., illus. Oct. 1950 (U. S. Bur. Agr. Econ. cooperating).

    Determines wholesale and retail margins for apples sold in Indianapolis between Dec. 1949 and April 1950. Margins are shown by apple variety, grade, size, type of container and place of origin; specifically Indiana, Michigan, and Washington State. This report also surveys channels and methods used in marketing Indiana grown apples in the 1949–50 crop year. A short summary of the margin phase may be found in North Central Regional Pub. 29:73–75, June 1952.

260. Badger, H. T. RETAIL MARGINS FOR SELECTED FRESH FRUITS AND VEGETABLES IN PITTSBURGH, PA., JULY 1950–JANUARY 1951. U. S. Bur. Agr. Econ., 41 pp., illus. Sept. 1953.

    Shows the gross retail margin by months and origin for apples, oranges, grapefruit, lemons, peaches, potatoes, sweetpotatoes, tomatoes, lettuce, onions, carrots, and cabbage sold in 20 Pittsburgh retail stores. Gives volume of sales, seasonal pattern, and amount of waste and spoilage for each commodity.

    Earlier reports for marketing charges and margins of fruits and vegetables sold in Pittsburgh and Cleveland are listed below. The data for Cleveland were collected by the Market Research Corporation of America, formerly the Industrial Surveys Company, Inc.

Reports for individual commodities sold in Pittsburgh:

261. Badger, H. T. MARKETING CHARGES FOR HEAD LETTUCE SOLD IN PITTSBURGH, DECEMBER 1949–JUNE 1950. U. S. Bur. Agr. Econ. Mktg. Res. Rpt. 4, 26 pp., illus. Apr. 1952.
262. Bitting, H. W. and Badger, H. T. MARKETING CHARGES FOR APPLES SOLD IN PITTSBURGH, DECEMBER 1949–MAY 1950. U. S. Dept. Agr. Inform. Bul. 47, 27 pp., illus. June 1951.
263. Garrott, W. N. MARKETING CHARGES FOR POTATOES SOLD IN PITTSBURGH, PA., DECEMBER 1949–JUNE 1950. U. S. Bur. Agr. Econ. Mktg. Res. Rpt. 5, 28 pp., illus. May 1952.
264. Lee, W. A. MARKETING MARGINS FOR SELECTED FRESH FRUITS AND VEGETABLES SOLD IN PITTSBURGH, JULY

1950–JANUARY 1951. Pa. Agr. Expt. Sta. Prog. Rpt. 87, 36 pp. Sept. 1952 (in cooperation with U. S. Bur. Agr. Econ.)

265. Reizenstein, H. H. and Bitting, H. W. FARM-TO-RETAIL MARGINS FOR APPALACHIAN APPLES MARKETED IN PITTSBURGH, 1949-50 SEASON. U. S. Dept. Agr.; Agr. Inform. Bul. 44, 26 pp., illus. April 1951.

Reports for individual commodities sold in Pittsburgh and Cleveland:

266. Badger, H. T. MARKETING CHARGES FOR CARROTS SOLD IN PITTSBURGH, PA., DEC. 1949–JUNE 1950 AND IN CLEVELAND, OHIO, FEB.–JUNE 1950. U. S. Dept. Agr. Mktg. Res. Rpt. 31, 36 pp., illus. Feb. 1953.

267. Garrott, W. N. MARKETING CHARGES FOR ONIONS SOLD IN PITTSBURGH, PA. DECEMBER 1949–JUNE 1950. AND IN CLEVELAND, OHIO, FEBRUARY–JUNE 1950. U. S. Bur. Agr. Econ. 20 pp., illus. June 1953.

268. Garrott, W. N. MARKETING CHARGES FOR SWEETPOTATOES SOLD IN PITTSBURGH, PA., DECEMBER 1949–JUNE 1950 AND IN CLEVELAND, OHIO, FEBRUARY–JUNE, 1950. U. S. Bur. Agr. Econ., 31 pp., illus. 1953.

269. Johnson, D. B. MARKETING CHARGES FOR GRAPEFRUIT SOLD IN PITTSBURGH, PA. AND CLEVELAND, OHIO, 1949-50 SEASON. U. S. Bur. Agr. Econ. 31 pp., illus. June 1953.

270. Johnson, D. B. MARKETING CHARGES FOR LEMONS SOLD IN PITTSBURGH AND CLEVELAND, 1949-1950 SEASON. U. S. Bur. Agr. Econ. 22 pp., illus. 1953.

271. Johnson, D. B. MARKETING CHARGES FOR ORANGES SOLD IN PITTSBURGH AND CLEVELAND, 1949-50 SEASON. U. S. Dept. Agr. Mktg. Res. Rpt. 27, 40 pp., illus. Jan. 1953.

Report for individual commodities sold in Cleveland:

272. Badger, H. T. MARKETING CHARGES FOR HEAD LETTUCE SOLD IN CLEVELAND, OHIO, FEBRUARY–JUNE 1950. U. S. Dept. Agr. Mktg. Res. Rpt. 6, 24 pp., illus. June 1952.

273. Garrott, W. N. MARKETING CHARGES FOR POTATOES SOLD IN CLEVELAND, OHIO, FEBRUARY–JUNE 1950 U. S. Dept. Agr. Mktg. Res. Rpt. 21, 28 pp., illus. 1952.

The above 13 reports show farm-to-retail margins. They include the following specified points in the marketing system: retail, wholesale, broker, transportation, shipping point services and producer. Most of the attention is at retail for the respective commodities sold in 20 Cleveland and 30 Pittsburgh retail stores. Quantity sold, waste, marketing charges and margins are shown by place of origin. Retail margins are tabulated by months, size of margin, and place of origin for various store groups. Pricing policy is discussed in each report. Lee, using data collected at the same time as Badger in "... Selected Fresh Fruits and Vegetables ..." reports on apples, peaches, cabbage, and potatoes showing price and margin of Pennsylvania produced crops sold through specified channels; margin and volume by type of store; and relationship between retail margin and cost prices. The report on Appalachian apples by Reizenstein and Bitting places more emphasis on packing shed and shipping point services.

274. Bitting, H. W. PRODUCE DEPARTMENT SPACE UTILIZATION, GROSS MARGINS, AND OPERATING COSTS IN SELECTED RETAIL STORES IN CHARLOTTE, N. C. U. S. Dept. Agr. Mktg. Res. Rpt. 36, 38 pp., illus. June 1953 (contract report with Alderson and Sessions).

Examines in detail the allocation of floor space among the produce, grocery, and meat departments within various sized stores as related to gross profit per square foot, pricing practices, and differences in retail margins for potatoes, sweetpotatoes, carrots, onions, lettuce, tomatoes, cabbage, apples, oranges, and grapefruit sold from January 22 to May 19, 1951.

275. Cochran, W. L. WHOLESALE MARGINS FOR FRESH CITRUS FRUITS IN THE PITTSBURGH, PA. WHOLESALE FRUIT AND VEGETABLE MARKET. U. S. Dept. Agr. Prod. & Mktg. Admin. 20 pp. Aug. 1950.

Analyzes margins for various types of wholesalers for oranges, grapefruit, lemons, and tangerines sold in the Pittsburgh wholesale market. Data used in this study comprise monthly summaries of citrus purchases and sales for 18 months, November 1947 to April 1949.

276. Enochian, R. V. and Calhoun, Wendell. RETAIL MARGINS FOR ASPARAGUS SOLD IN DENVER, COLORADO, MARCH–JULY 1950. U. S. Bur. Agr. Econ., 11 pp. illus. June 1953.

277. Enochian, R. V. and Calhoun, Wendell. RETAIL MARGINS FOR POTATOES SOLD IN DENVER, COLORADO, SEPTEMBER 1949–JULY 1950. U. S. Bur. Agr. Econ., 16 pp., illus. June 1953.

278. Enochian, R. V. and Calhoun, Wendell. RETAIL MARGINS FOR LETTUCE SOLD IN DENVER, COLORADO, SEPTEMBER 1949–JULY 1950. U. S. Bur. Agr. Econ., 13 pp., illus. June 1953.

The above three listings report retail price, retail margin and volume of sales in 50 Denver independent retail stores by store size groups and months for each of the three commodities. Margins and volume are shown by variety for potatoes and volume is shown by state of origin for lettuce and asparagus. Each commodity report discusses pricing policy.

279. Foytik, Jerry. CALIFORNIA THOMPSON SEEDLESS GRAPES: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1948. Calif. Agr. Expt. Sta. Mimeo. Rpt. 115, 28 pp., illus. June 1951.

280. Foytik, Jerry. CALIFORNIA ASPARAGUS: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1949. Calif. Agr. Expt. Sta. Mimeo. Rpt. 116, 29 pp., illus. June 1951.

281. Foytik, Jerry. CALIFORNIA CELERY: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1948-1949. Calif. Agr. Expt. Sta. Mimeo. Rpt. 117, 29 pp., illus. June 1951.

282. Foytik, Jerry. CALIFORNIA CARROTS: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1948-1949. Calif. Agr. Expt. Sta. Mimeo. Rpt. 118, 29 pp., illus. July 1951.

The above four reports give margins for California produced commodities sold in California. Independent and local chainstores west of the Sierra Nevada Mountains were surveyed between August 1948 and June 1949. Shows retail margins by area and by type of store; wholesaling margins by type of dealer and by area where sold. Reports producing areas, marketing channels, and spoilage for each commodity. California Farm Bureau Federation and U. S. Bur. Agr. Econ. cooperated in these studies.

283. Foytik, Jerry. CALIFORNIA CANTALOUPES: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1949 SEASON. Calif. Agr. Expt. Sta. Giannini Foundation Agr. Econ. Mimeo. Rpt. 179, 32 pp., illus. Sept. 1955.

284. Foytik, Jerry. CALIFORNIA LETTUCE: MARKETING CHANNELS AND FARM-TO-RETAIL MARGINS, 1948-49. Calif. Agr. Expt. Sta. Giannini Foundation Agr. Econ. Mimeo. Rpt. 182, 42 pp., illus. Oct. 1955.

The above two reports give the comparable information for lettuce and cantaloupes as in the preceding four reports by Foytik.

285. Hinkle, W. B., Jr. MERCHANDISING FRESH FRUITS AND VEGETABLES IN RETAIL STORES, PART I: STORE CHARACTERISTICS AND PRODUCE OPERATIONS. N. Y.

(Cornell) Agr. Expt. Sta. Agr. Econ. 818, 82 pp., illus. May 1952.

Examines produce department operations in various types of retail stores in Syracuse, N. Y. during 1949 and 1950. Shows retail margins by store type in July–September 1949 and in September 1950. Commodities reported on include: sweet corn, lettuce, potatoes, tomatoes, apples, bananas, oranges, peaches, pears, cauliflower, and grapes.

286. Hoos, Sidney. DAILY PRICES AND RETAIL MARGINS: ORANGES, LEMONS, AND GRAPEFRUIT, DENVER, AUGUST 1948–JULY 1949. Calif. Agr. Expt. Sta. Giannini Foundation Agr. Econ. Mimeo. Rpt. 168, 138 pp., illus. July 1954 (U. S. Bur. Agr. Econ. cooperating).

A comprehensive analysis of the relation of retail price to margin for fresh citrus crops sold in Denver retail food stores for the 1948–49 marketing season. This study utilizes daily wholesale and retail market prices.

287. Hoos, Sidney. WEEKLY PRICES AND RETAIL MARGINS: SMALL, MEDIUM, AND LARGE STORES; ORANGES, LEMONS, AND GRAPEFRUIT, DENVER, AUGUST 1948–JULY 1949. Calif. Agr. Expt. Sta. Giannini Foundation Agr. Econ. Mimeo. Rpt. 170, 150 pp., illus. Sept. 1954 (U. S. Bur. Agr. Econ. cooperating).

A comprehensive analysis of the relation of retail price to margin for fresh citrus crops sold in Denver retail food stores for the 1948–49 marketing season. Emphasis is on weekly prices and spreads in various sizes of stores.

288. Lee, W. A. and Fouraker, L. E. PROFIT MAXIMIZATION AND MARGINS IN THE RETAILING OF PERISHABLES. Jour. Mktg. 20: 171–3, Oct. 1955.

Discusses pricing practices by retailers associated with a constant percentage markup following fluctuations in wholesale price which would provide the retailers' margin. Potato pricing practices in Pennsylvania during 1952–53 marketing season were obtained by interviews with produce merchandisers.

289. National Grocers Bulletin. NARGUS PRODUCE MARGIN SURVEY. Nat. Grocery Bul. pp. 42–44, Jan. 1950 (reprint).

Shows retail margin for 36 fruits and vegetables as obtained from all sized member stores of National Assoc. of Retail Grocers of United States in a survey during August, November, and April 1948–49.

290. Quinn, O. B. AN ECONOMIC STUDY OF PRODUCTION AND MARKETING OF SHALLOTS IN ST. JAMES PARISH. La. Agr. Expt. Sta. Mimeo. Cir. 124, 76 pp., Illus. June 1951.

A study of factors affecting returns to growers under the headings of yield, cost and price for shallots grown in Louisiana in the 1949–50 season. Shows prices and spreads from the farmer to terminal markets for 9 major cities by marketing periods, and charges per barrel for carlot and less than carlot shipments. Reports handling and packing costs.

291. Rasmussen, M. P., Quitslund, F. A. and Cake, E. W. RETAIL OUTLETS FOR FRUIT IN NEW YORK CITY. U. S. Farm Credit Admin. Bul. 52, 120 pp., illus. June 1941.

An enumeration of over 1,500 outlets from a total of approximately 16,800 retail outlets selling fruit in New York City during August, November, and March of 1939–40. Shows the services and sales of fruit in these outlets by income areas. Gives the retail margin for 16 types of fruit by month. Also margins are shown by month and income class.

292 Scott, R. C. MARKETING APPLES IN THE CANTON-YOUNGSTOWN AREA OF OHIO, 1949-50 MARKETING SEASON. Ohio Agr. Expt. Sta. Mimeo. Bul. 218: 13–15. August 1950.

Retail margins for apples sold in various types of food stores in the Canton-Youngstown area of Ohio for the weeks of September 19 and November 28, 1949 and January 23, 1950.

293. Scott, R. C. and Higgins, R. A. MARKETING PEACHES, CANTON-YOUNGSTOWN AREA. Ohio Agr. Expt. Sta. Res. Circ. 7, 26 pp., illus. Oct. 1950.

A study of marketing peaches at retail was conducted in the Canton-Youngstown area of Ohio in Aug. and Sept. 1949. Interest was in merchandising and handling practices, sources of supply, quality, sales, and retailers' preferences. Reports retail margin by several store sizes and by origin.

294. Scott, R. C. and Leed, T. W. MARKETING APPLES THROUGH RETAIL STORES IN CLEVELAND AND CANTON-YOUNGSTOWN AREA. Ohio Agr. Expt. Sta. Res. Bul. 719, 31 pp. Feb. 1953.

Shows sources of supply and varieties of apples displayed; reports on apple bruising. Gives prices and margins, merchandising practices, and retailers' attitudes and preferences. Survey included 118 Cleveland stores in November 1950 and 86 Canton-Youngstown stores in December 1950.

295. Seltzer, R. E., Rowell, J. D. and Sherbune, R. A. RETAILING GRAPEFRUIT AND GRAPEFRUIT PRODUCTS IN LOS ANGELES. Ariz. Agr. Expt. Sta. Rpt. 96, 12 pp. March 1950.

A study of prices of fresh grapefruit, grapefruit sections and grapefruit juice sold in Los Angeles retail stores in the spring of 1949. Shows amount of retail markup and disposition of consumer's grapefruit dollar. Spoilage, display methods, quality, brands, and competition are also discussed. Comparisons with selected competing products include apples, oranges, lemons, and tomato juice.

296. Stanford Research Institute. TRANSPORTATION AND HANDLING COSTS OF SELECTED FRESH FRUITS AND VEGETABLES IN THE SAN FRANCISCO BAY TERMINAL MARKET AREA. U. S. Dept. Agr. Mktg. Res. Rpt. 2, 65 pp. May 1952 (contract report with Stanford Research Institute).

Describes wholesale marketing costs of dealers including handling costs among secondary handlers, and costs by marketing channels for apples, oranges, peaches, lettuce, potatoes, and tomatoes during January–July 1951. Measures transportation and handling costs into, within, and out of retail chain warehouses, wholesale dealers' stores; and differences in these costs between markets and among commodities.

297. Van Waes, D. A. RETAIL DISTRIBUTION OF FRESH PEACHES IN SYRACUSE, N. Y. N. Y. (Cornell Agr. Expt. Sta. Agr. Econ. 676, 48 pp., illus. Sept. 1948.

Describes retailing of peaches from Syracuse stores in Sept. 1947. Shows retail margin by size and type of store in commercial and neighborhood areas.

GENERAL

298. Dunsdon, R. O. MARKETING MARGINS FOR FRUITS AND VEGETABLES. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 116: 34–39, Jan. 1955.

Reports the gross retail margin for 7 fresh, 6 frozen and 13 canned produce commodities sold in Pittsburgh in October–November 1954. Compares margins for fresh fruits and vegetables in 1954 with those in 1950–51 for Pittsburgh. (See Badger, Henry T. Retail Margins for Selected Fresh Fruits and Vegetables in Pittsburgh, Pa., July 1950–January 1951.) Compares frozen and canned margins in 1954 for Pittsburgh with the margins in 11 cities in 1949–50.

299. Enochian, R. V. MARKETING MARGINS FOR FRUITS AND VEGETABLES IN CALIFORNIA AND A COMPARISON OF TWO METHODS OF MEASUREMENT. U. S. Bur. Agr. Econ. 34 pp., illus., July 1952 (Calif. Agr. Expt. Sta. cooperating).

Determines marketing margins for asparagus, carrots, and Thompson seedless grapes, marketed in Metropolitan Los Angeles and San Francisco-Oakland during 1949–50 with respect to farm price, shippers' margin, transportation, delivered price to the wholesale market, wholesale and retail margins. Compares retail margins measured from: (1) Buying prices as sampled from retail stores, and (2) averaged midpoints of wholesale selling prices as reported by Federal-State Market News Reports.

300. Fisher, W. D. CALIFORNIA FRESH TOMATOES: MARKETING CHANNELS AND GROSS MARGINS FROM FARM TO CONSUMER, SUMMER AND FALL 1948. Calif. Agr. Expt. Sta. Mimeo. Rpt. 113, 44 pp., illus. June 1951 (U. S. Bur. Agr. Econ. and Calif. Farm Bur. Fed. cooperating).

Shows wholesale and retail margins by area and by type of handler for California produced tomatoes sold in California independent and local chainstores, August to November 1948. Packing and transportation costs, spoilage, and marketing channels are shown. Discusses the method for analyzing the margin, costs, and channels.

301. Garrott, W. N. FARM-TO-RETAIL MARGINS FOR MARKETING SOUTHEASTERN EARLY WHITE POTATOES IN PHILADELPHIA, NEW YORK, CHICAGO, AND CINCINNATI, 1949 U. S. Bur. Agr. Econ., 4 pp., Oct. 1950.

Determines margins for marketing services on 66 test shipments of potatoes from southeastern producing areas to specified cities. Major marketing costs, beginning with digging and ending with the sale at retail are shown. Producing areas included are: Dade County and Hastings, Florida, Aurora and Elizabeth City, North Carolina, Virginia, South Carolina, and Alabama.

302. Greig, W. S. and Spurlock, A. H. MARGINS AND COSTS IN MARKETING FLORIDA SWEET CORN. U. S. Dept. Agr. Misc. Pub. 719, 11 pp. illus. Apr. 1956 (Fla. Agr. Expt. Sta. cooperating).

Estimates the marketing costs and services involved in moving a car of sweet corn from the Belle Glade, Florida area to retail consumers in Baltimore, Md., during the peak shipping season in May 1955.

303. Grocery Manufacturers of America, Inc. QUICK FROZEN PEAS; A STUDY OF THE SPREAD. Grocery Manufacturers Amer. Inc., New York, N. Y. ,6 pp., illus. (Reprinted from National Grange Monthly.)

Shows the spread between the price of raw farm products and the price paid at the store by the consumer. This is a case study of a 12-oz. package of nationally advertised, Grade A, quick frozen peas sold in "direct buying" supermarkets for the 1951 season. It gives percentages of the consumer's| dollar received by the grower, processor, and supermarket with a detailed breakdown of the margin for the supermarket and processor.

304. Johnson, D. B. (*A*) MARKETING MARGINS FOR FLORIDA ORANGES IN 10 MAJOR CITIES, JUNE 1952. U. S. Bur. Agr. Econ. 13 pp., illus. July 1952. (Monthly Series began with October–November 1951 issue published January 1952.) (*B*) MARKETING MARGINS FOR CALIFORNIA ORANGES IN 10 MAJOR CITIES, JUNE–AUG. 1952 U. S. Bur. Agr. Econ. 5 pp., illus. Sept. 1952. (*C*) MARKETING MARGINS FOR ORANGES IN NINE MAJOR CITIES, SEPT. 1952–FEB. 1953. U. S. Bur. Agr. Econ. 19 pp., illus. April 1953.

These show the prices paid at specified points in the marketing channel and retail margins for fresh oranges, canned juice, and frozen concentrated juice by cities. The cities covered are: Atlanta, New York, Boston, Chicago, Minneapolis, Kansas City, Mo., Houston, San Francisco, and Seattle in publication (*C*). Kansas City and Houston are omitted and Birmingham, Dallas, and Denver are included in publication *A* and *B*. Issue *A* gives data from October 1951 to June 1952. Issue *C* reports both California and Florida oranges.

305. Lilieholm, W. C. GROVE-TO-RETAIL MARGINS FOR FLORIDA VALENCIA ORANGES MARKETED IN FRESH FORM IN SELECTED CITIES, 1940–48. U. S. Bur. Agr. Econ. 22 pp., illus. Oct. 1950.

Reports and discusses growers' return, picking and assembling costs, packing and selling costs, freight charges, auction charges, and the combined wholesale and retail margin for Florida valencia oranges in 8 cities during nine seasons, 1940–1948. The cities are Boston, New York, Philadelphia, Baltimore, Pittsburgh, Cleveland, Cincinnati, and Chicago.

306. Malphrus, L. D. and Conlogue, R. M. PHYSICAL LOSSES, MARKETING COSTS AND PRICES OF FRESH TOMATOES. S. C. Agr. Expt. Sta. Bul. 383, 32 pp., illus. May 1950 (U. S. Bur. Agr. Econ. cooperating).

Primarily deals with spoilage losses occurring at various stages in the marketing system. Shows daily retail margin for the month of June 1949 for Beaufort, South Carolina tomatoes sold in Jacksonville, Florida. Estimates the cost of marketing from producing to repacker.

307. Manchester, A. C., Macomber, A. Z. and Powell, J. V. MARKETING MARGINS FOR FRUITS AND VEGETABLES. U. S. Agr. Mktg. Serv. AMS–110, 8 pp., illus. March 1956. (Reprinted from Mktg. and Transportation Situation. Jan. 1956.)

Reports trends from 1945–1955 in marketing margins for: fresh, processed, and combined fruits and vegetables; fresh fruits; and fresh vegetables. Gives margins for California and Florida oranges sold in Chicago and New York City in November 1955. Shows farm-to-retail margins for Idaho Russet Burbank potatoes sold in Atlanta, Chicago, Los Angeles, and New York City, and Long Island round white potatoes in New York City in Nov. for 1955. Also gives margins for lettuce from Salinas, Calif., sold in New York City in Oct. 1955.

308. Manchester, A. C. ORANGE TREE TO BREAKFAST TABLE: MARKETING COSTS AND MARGINS FOR FLORIDA ORANGES. U. S. Agr. Mktg. Serv. Misc. Pub. 164 12 pp., illus. June 1957.

Gives costs of marketing and shows margins at various stages for marketing Florida oranges through auction in New York City and Chicago by months from November 1955 to June, 1956. Explains steps in marketing the orange from the time it leaves the tree until it is in the hands of the consumer, and relates costs to these steps. A comparison is given of similar costs and margins for the 1949–50 season.

309. Motts, G. N. MARKETING MICHIGAN POTATOES. Mich. Coop. Ext. Serv. Bul. 331, 23 pp., illus. 1954.

Describes where and how potatoes produced in Michigan are marketed. Shows an example of marketing costs and margins for Michigan potatoes sold in midwestern markets in the 1953–54 season.

310. Peters, C. W., Reed, R. H., and Creek, C. R. MARGINS, SHRINKAGE, AND PRICING OF CERTAIN FRESH VEGETABLES IN HONOLULU. Hawaii Agr. Expt. Sta. Agr. Econ. Bul. 7, 31 pp., Illus. June 1954. (U. S. Agr. Mktg. Serv. cooperating.)

Gives marketing channels, margins by outlets, marketing charges, wholesale and retail shrinkage costs for Hawaiian grown head cabbage, carrots, cucumbers, lettuce, sweetpotatoes, and tomatoes during July 1951 through April 1953.

311. Podany, J. C. MARKETING COSTS AND MARGINS FOR FRUITS AND VEGETABLES. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv. 124: 38–45. Jan. 1957.

Discusses recent trends in marketing margins for fruit and vegetables. Reports prices and margins by months at various levels of marketing for oranges, apples, and potatoes sold in New York City and Chicago, 1955–56 season. The oranges start from Florida, Delicious apples from Washington State, and Russet Burbank potatoes are from Idaho.

312. Reizenstein, H. H. and Bitting, H. W. FARM-TO-RETAIL MARGINS FOR WASHINGTON DELICIOUS APPLES MARKETED IN CHICAGO, 1947–48 SEASON. U. S. Dept. Agr., Agr. Inform. Bul. 6, 21 pp., illus. Dec. 1949.

Describes the average margin, grower returns, shipping point services, transportation, auction market, wholesaling, retailing, and retail price for a box of apples from a Washington orchard to a Chicago consumer during the 1947–48 season. Compares average freight rates to, and wholesale market prices in Chicago, New York City, and Los Angeles.

313 Reizenstein, H. H. and DeLoach, D. B. RETAIL PRICES OF WASHINGTON APPLES COMPARED WITH PRICES RECEIVED BY GROWERS. The Mktg. and Transportation Situation, U. S. Bur. Agr. Econ. 87: 17–22. Aug. 1950.

Shows prices and charges at the various marketing levels from "on-tree" price to retail for Washington Delicious apples sold in Chicago in October–December of 1947–49. Compares the percentage of the consumer's dollar represented by "on-tree" and f. o. b. prices. Comparable data are given for Washington Jonathan, Rome Beauty, and Delicious apples sold in New York City and Los Angeles in 1949.

314. Scott, F. E. and Mumford, H. W., Jr. PROBLEMS IN MARKETING POTATOES: PRELIMINARY RESULTS OF SOME RECENT RESEARCH. U. S. Bur. Agr. Econ. 60 pp., illus. July 1949.

Discusses trends, demand, supply, distribution, price spreads, and quality for potatoes. Shows the cost of one serving of potatoes in relation to other foods in October 1948. Gives farm-to-retail margins for Maine and Idaho potatoes in New York City in February 1948 and shows relationship between Transportation costs and price spreads for selected points, 1931–1948.

315. Seltzer, R. E. DESERT GRAPEFRUIT GOES TO MARKET. Ariz. Agr. Expt. Sta. Bul. 230, 61 pp., illus. July 1950.

This bulletin describes the desert grapefruit industry, reporting on economic status, marketing programs, grades, harvesting, packing, transporting, wholesaling, and retailing. It presents in summary past studies carried on by the Ariz. station including tree to car marketing costs, retailing in Tucson and Los Angeles, bulk vs. box harvesting costs, freight rates, and f. o. b. to "on-tree" prices.

316. Sorenson, H. B. and Baker, C. K. METHODS AND COST OF HANDLING TEXAS CITRUS, 1946–51. Tex. Agr. Expt. Sta. Bul. 771, 15 pp., illus. Sept. 1953 (U. S. Farm Credit Admin. cooperating).

Shows results of a 5-year study covering methods and costs of harvesting, packing, processing, selling, and distributing Texas fresh citrus and citrus products. The study included 38 packinghouses and 29 processors. Background information starting with the 1933–34 season covers production, volume of shipments, distribution, average return to grower, and auction prices in ten cities. A companion publication entitled "Supplementary Tables" has 55 tables that show more detail relating to this study.

317. South Carolina Agricultural Experiment Station. MARKETING SOUTH CAROLINA TOMATOES IN NEW YORK CITY, COSTS AND MARGINS. S. C. Agr. Expt. Sta. Cir. 73, 14 pp., illus. Dec. 1948 (U. S. Bur. Agr. Econ. cooperating).

Shows marketing margins and costs for tomatoes shipped from the producer in Beaufort and Charleston Counties, South Carolina through New York City auction in June 1948.

318. U. S. Bureau of Agricultural Economics. MARKETING MARGINS AND COSTS FOR FRESH FRUITS AND VEGETABLES. U. S. Bur. Agr. Econ. 11 pp., illus. Apr. 1948. (Reprinted from Mktg. & Transportation Situation. May 1945.) (Out of print.)

Presents marketing channels and distribution of the consumer's dollar for fresh fruits and vegetables in the U. S. for 1939. Reports estimated average margins for various marketing agencies handling fruits and vegetables. Discusses various expense items in the marketing system.

319. Zahn, G. D. MARKETING WASHINGTON APPLES IN DENVER, 1948–49 SEASON. Wash. Agr. Expt. Sta. Cir. 148, 14 pp., illus. May 1951 (Univ. of Calif. cooperating).

Shows margins at various points in the marketing system, wholesale and retail margins by varieties, and sales volume with length of time held before resale by wholesaler for Washington apples sold in Denver from September to June, 1948–1949. Reports by type of retail store and months the number of days required to sell apples, volume of sales, margins and spoilage. Analyzes relationship of price to margin.

LIVESTOCK, MEAT, AND MEAT PRODUCTS

320. Bjorka, Knute. MARKETING MARGINS AND COSTS FOR LIVESTOCK AND MEAT. U. S. Bur. Agr. Econ. Tech. Bul. 932, 102 pp., illus. Jan. 1947.

Presents and analyzes data concerning margins and costs of marketing livestock and meat in 1939. Shows breakdown of consumer's meat dollar by function and by agency. Suggests ways to reduce costs and increase efficiency in marketing meat.

321. Bottom, J. C. THE SPREAD BETWEEN PRICES OF LIVESTOCK AND MEAT. Swift and Company, Chicago, Ill., 7 pp., illus. 1956.

Discusses the relationship between prices of various cuts of beef and pork, and the percentage of the carcass each cut represents. Points up some measures for lowering marketing margins for beef and pork.

322. DeLoach, D. B., and Farstad, Edmund. BEHAVIOR OF MEAT MARKETING MARGINS. Jour. Farm Econ., 34: 916–921. December 1952.

Discusses briefly some of the accomplishments of past research concerning the behavior of meat marketing margins during 1917–50. Discusses briefly margins by marketing function, and also variations of operating cost at the retail level and relations between operating cost and volume. Points up the relative importance of various cost items and discusses difficulties in retail meat margin research.

323. DeMasters, E., and Farstad, E. MARKETING MARGINS FOR BEEF AND PORK. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv., 116: 28–33, illus. Jan. 1955.

Describes the general movement of marketing margins for U. S. Choice grade beef and for pork during 1950–54. Composite retail price and farm value are compared between 1953 and 1954, annually and quarterly. The farmer's share of the consumer's dollar spent for beef and for pork are also compared for these years. Shows trend in composite retail prices, farm value, and farm-to-retail price spread of pork and lard in 5 large midwestern cities during the period 1950–54.

324. Engelman, Gerald. LIVESTOCK MARKETING MARGINS. I. MARKETING MARGINS FOR LIVESTOCK. II. MARKETING MARGINS FOR BEEF. III. MARKETING MARGINS FOR PORK. IV. MARKETING MARGINS FOR LAMB. Statements to the Seventh Annual Stockman's Short Course, Washington State College, Pullman, Wash., Dec. 10–14, 1956. U. S. Agr. Mktg. Serv., 30 pp., illus.

Discusses costs of providing marketing services for livestock, trends in farm, wholesale and retail prices, along with the trend in margins for livestock reported annually through 1955. Gives the distribution of the consumer's beef, pork, and lamb dollars based on different marketing situations for beef, pork, and lamb in the period 1954–1956.

325. Engelman, Gerald. TRENDS BEHIND THE HOG SITUATION. Statement to the North Central Regional Meat-Type Hog Workshop. Columbus, Ohio, May 7, 1956.

Discusses the rapid drop in hog prices during the 6-month period from June to December 1955, the factors influencing this drop, and the characteristics of prices and margins from 1949 through 1955. Discusses briefly changes in consumer preferences for pork over a long period of time. Includes 18 charts related to prices, margins, hog slaughter, production, red meat consumption per capita, and retail value of meat consumed.

326. Farstad, Edmund, Cox, C. B., Kramer, R. C. and Phillips, C. D. RETAILING MEAT IN THE NORTH CENTRAL STATES. Purdue Univ. Agr. Expt. Sta. Bul. 622, 32 pp., illus. March 1955. (Agr. Expt. Stas. of Ill., Ind., Iowa, Kans., Ky., Mich., Minn., Mont., Nebr., N. D., Ohio, S. D., Wis., and U. S. Dept. Agr. cooperating.)

Describes and analyzes some of the more important general characteristics of the retail meat industry in the North Central Region. Describes general characteristics of retail meat distribution, relative importance of various kinds of meat sold and merchandising practices of retail stores. Analyzes costs involved in retail meat distribution, pricing retail meat items, and gross margins by retailers. Based largely on results of a sample survey of stores in May 1953.

327. Farstad, Edmund, and Brensike, John. COST OF RETAILING MEATS IN RELATION TO VOLUME. U. S. Bur. Agr. Econ., Mktg. Res. Rpt. 24, 25 pp., illus. Aug. 1952.

Generally concerned with costs of retailing meat and improving market efficiency. Deals with variations in retail operating cost of operation among cities and among stores and factors influencing these variations. Discusses the effect equipment, labor, rent, and services performed have on return to scale and high-cost firms in a competitive industry. Study conducted during 1950 in Harrisburg, Pa., Bridgeport, Conn., and Topeka, Kans.

328. Farstad, Edmund. MARGINS FOR MARKETING LIVESTOCK FROM FARMS TO SLAUGHTERING PLANTS AND FEEDLOTS. U. S. Bur. Agr. Econ., 10 pp., illus. July 1949.

Deals with the magnitude and the general make-up of margins for marketing livestock at different price levels. Years used for analysis and comparison are 1947 for a period of high livestock prices, 1939 for average prices, and 1932 to represent very low livestock prices.

329. Lewis, G. M., and Ives, J. R. FINANCIAL FACTS ABOUT THE MEAT PACKING INDUSTRY, 1956. American Meat Institute, Chicago, Ill., 24 pp., illus.

The 31st annual financial survey includes 109 companies engaged in meatpacking in 1956. Estimates of earnings, sales, volume handled, assets and liabilities, and earnings ratios for 1956 are compared with those of former years. The distribution of the meatpacking industry's sales dollar is also shown by wages and salaries, supplies and containers, transportation, taxes, other expenses, and net earnings. This publication includes 27 tables compiled from various sources—mostly Federal Government publications—showing financial data for the meatpacking industry in recent years.

330. Limmer, Ezekiel. INDEX NUMBERS OF RAILROAD FREIGHT RATES ON LIVESTOCK AND MEATS. . . . U. S. Bur. Agr. Econ., 19 pp., Nov. 1951.

For meats, the data cover 1940–50; for livestock, 1913–50. Various breakdowns are shown in these rate data by species of livestock, fresh meats and packinghouse products, regions, and mileage blocks.

331. Parr, Kathryn. FARM-TO-RETAIL MARGINS FOR LIVESTOCK AND MEAT. U. S. Bur. Agr. Econ., 33 pp. illus. June 1949.

Shows breakdown of consumer's dollar by marketing functions, by cost items, and by margins for the years 1932, 1939, and 1947. Discusses factors affecting margins at different price levels and relationships between retail prices of various cuts of meat. Describes relationship of specified meat cut prices to live animal prices and compares marketing margins by species.

332. Phillips, Victor B. MARKETING MARGINS FOR BEEF AND PORK. The Mktg. and Transportation Situation, U. S. Agr. Mktg. Serv., 124: 9–15. Jan. 1957.

Discusses and compares quarterly and annual movements in marketing margins for U. S. Choice grade beef and for pork during 1955 and 1956, including trends in live-to-wholesale and wholesale-to-retail margins. Describes quarterly and yearly variations in farm value, wholesale value, composite retail price, and the farmer's share of the consumer's dollar spent for U. S. Choice grade beef and for pork. Discusses briefly factors influencing changes in prices of beef and pork during the period 1955–56.

333. U. S. Agricultural Marketing Service. BEEF MARKETING MARGINS AND COSTS. U. S. Dept. Agr., Misc. Pub. 710, 35 pp., illus. Feb. 1956.

Analyzes the trend of prices and margins for U. S. Choice grade beef at different stages in the marketing process for the period 1949–55. Includes 6 cases illustrative of the wide variations in costs, prices and returns to farmers, feeders, packers, wholesalers, and retailers.

334. U. S. Agricultural Marketing Service. LAMB MARKETING COSTS AND MARGINS. U. S. Dept. Agr., Mktg. Res. Rpt. 159. 35 pp., illus. Apr. 1957.

Discusses the general characteristics of the sheep industry. Analyzes the trend of prices and margins for U. S. Choice grade lamb at different stages in the marketing channel from producer to consumer for the period 1949–56. Included are 6 illustrative cases disclosing wide variations in costs, prices, and returns to farmers, feeders, packers, wholesalers, and retailers.

335. U. S. Agricultural Marketing Service. MARKETING MARGINS FOR BEEF. U. S. Agr. Mktg. Serv., 30 pp., illus. Dec. 1953.

Attempts to answer two basic questions: (1) Have retail prices for beef reflected the declining prices of live cattle? (2) To what extent were lower prices for cattle on the farm, especially those for lower grades, associated with the general widening of marketing margins during 1952 and 1953?

Analyzes overall margins for U. S. Choice grade beef, live-to-wholesale margins, prices at livestock auction markets, chain store retail prices, wholesale costs and margins. Examines average retail prices, wholesale costs, and retailing margins for Commercial and Utility grades of beef.

336. U. S. Agricultural Marketing Service. PORK MARKETING MARGINS AND COSTS. U. S. Dept. Agr. Misc. Pub. 711, 46 pp., illus. April 1956.
Analyzes the trend of prices and margins for hogs and pork at different stages in the marketing process for the period 1949–55. Examines the factors contributing to the hog price decline of late 1955 and considers to what extent the trend toward wider marketing margins contributed to the decline. Includes 6 representative cases under various marketing conditions comparing 1954 and 1955 marketing margins and costs for hogs.

POULTRY AND EGGS

GENERAL

337. Conlogue, R. M., and Manson, F. R. MARKETING MARGINS FOR POULTRY AND EGGS. U. S. Agr. Mktg. Serv., AMS–112, 11 pp., illus. (Reprinted from The Mktg. and Transportation Situation, Jan. 25, 1956.)
States the marketing margin and farmer's share of the consumer's dollar from 1949 to 1956 for chickens and eggs. Also contains the farm-to-retail price spread for frying chickens, turkeys, and eggs for New York, Chicago, Los Angeles, and Atlanta during certain months of 1955. The marketing expenses for a Chicago and Minneapolis-St. Paul study includes the retailers, wholesalers, and processors margins and are broken down into individual expenses.

338. Conlogue, R. M., and Pritchard, N. T. MARKETING MARGINS FOR POULTRY AND EGGS. The Mktg. and Transportation Situation, Agr. Mktg. Serv., U. S. Dept. Agr. MTS–116: 18–27, illus. Jan. 31, 1955. (Reprinted in the "Department of Agriculture Appropriations for 1956." Hearing before the Subcommittee of the Committee on Appropriations, House of Representatives, Eighty-Fourth Congress, First Session. Part 3, pp. 1046–1050.)
Reports the farm-to-retail margins for 1953 and 1954 covering fryers, turkeys, and eggs. A detailed analysis of an egg marketing margin study in November 1953 and February, May, August, and November of 1954 in Washington, D. C., showing costs and margins for nearby and Midwestern country assemblers, wholesalers, and retailers.

339 Gray, L. R. MARKETING MARGINS FOR POULTRY AND EGGS IN THE UNITED STATES AND SELECTED CITIES. U. S. Agr. Mktg. Serv. AMS–170, 14 pp. illus. (Reprinted from The Mktg. and Transportation Situation, Jan. 30, 1957.)
Covers changes in margins for poultry and for eggs yearly from 1949–56, and monthly for eggs for 1954–56. Compares monthly trend in retail price, price to retailer, and farm value for ready-to-cook fryers in 6 large cities and ready-to-cook turkeys in 2 large cities, monthly from July 1955 to December 1956. Also shows trend of prices in city wholesale markets for ready-to-cook fryers. Compares monthly trend in farm-retail prices in the same period for large eggs in 5 large cities and medium eggs in 3 large cities.

340. Koudele, J. W. EGG AND OTHER PRODUCE PROCUREMENT COSTS. Kansas Agr. Expt. Sta. Cir. 304, 27 pp., illus. Mar. 1954. (In cooperation with the Prod. & Mktg. Adm., U. S. Dept. Agr.)
Reports the total procurement costs of 14 produce firms for eggs and live poultry with a breakdown of the total costs during 1949.

341. Ratcliffe, H. E. COOPERATIVE MARKETING OF EGGS AND POULTRY IN OHIO. Farm Credit Adm., U. S. Dept. Agr. Bul. 59, 69 pp., illus. May 1950.
Describes the cooperatives' assembling and handling procedures, marketing methods and outlets, receipts and expenses of operation, labor, trucking, and supplies and the total marketing costs of both poultry and eggs from 1945 through 1947.

342. Rothbauer, T. C., Wood, G. B., and Martin, J. H. POULTRY AND EGG TRUCK ROUTES IN INDIANA. Purdue Agr. Expt. Sta. Bul. 571, 31 pp., illus. Jan. 1952.
Reports on a study covering 43 poultry and egg assembly plants and their various operating costs in the procurement of eggs and poultry in 1949 and 1950. The largest costs were variable and fixed truck costs and labor costs.

343. Winter, E. P. MARKETING MARGINS AND COSTS FOR POULTRY AND EGGS. U. S. Dept. Agr. Tech. Bul. 969, 70 pp., illus. Nov. 1948.
Reports the farm-to-retail marketing margins for poultry and eggs from 1929 to 1948. Marketing costs for the year 1939 are broken down into the various agencies and functions required for the marketing of both poultry and eggs. Processing costs of poultry, frozen eggs, and dried eggs are also given.

EGGS

344. Anderson, R. H. THE ORGANIZATION AND STRUCTURE OF EGG MARKETING IN UTAH. Utah Agr. Expt. Sta. Bul. 381, 24 pp., illus. Apr. 1956.
Covers the entire egg marketing picture in Utah from the producer to the consumer during the period of 1952 through 1954. Describes the Utah egg market structure, market channels, and market agencies and includes all the functions performed by each. Also states the producer-to-consumer price spread for various sizes and grades of eggs sold in 1953 and 1954.

345. Bradford, H. W. EGG MARKETING COSTS COMPARED. News for Farmer Cooperatives. 19:15–16. Oct. 1952.
Discusses the marketing cost of eggs from 25 egg-marketing cooperatives scattered from Kansas to New Hampshire. The marketing cost is broken down into 14 individual expenses during a high receipts week of 1950 and 1951 with major breakdowns of 43 percent for labor, 33 percent for packing material, 14 percent for trucking, and 10 percent for overhead and other expenses.

346. Bradford, H. W., Ratcliffe, H. E., and Scanlan, J. J. COSTS AND LABOR EFFICIENCY OF SPECIALIZED EGG MARKETING COOPERATIVES IN THE NORTHEAST. Farm Credit Adm., U. S. Dept. Agr. Misc. Pub. 158, 42 pp., illus. Feb. 1952.
Contains data from 9 northeastern cooperatives covering 13 direct costs of egg handling on an operation by operation basis for 2 individual weeks, one a high-receipts week and the other a low-receipts week, in 1950 and 1951. A few indirect costs by associations are also given. There are 45 major tables in this report covering direct labor costs by operations, costs of packing material, trucking costs, indirect costs, and output per man-hour per operation.

347. Bradford, H. W., Ratcliffe, H. E., and Scanlan, J. J. COST OF HANDLING EGGS OF SELECTED COOPERATIVES IN THE NORTH CENTRAL STATES. Farm Credit Admin., U. S. Dept. Agr. Misc. Pub. 162, 47 pp., illus. May 1952.
Compares the efficiency and expense of each egg handling service performed by 16 cooperatives in 1950 and 1951.

348. CONLOGUE, R. M. SELLING EGGS INVOLVES MANY DIFFERENT HANDLING COSTS. Agriculture Situation, Agr. Mktg. Serv., U. S. Dept. Agr., 40: 12–13, illus. Oct. 1956.

Reports in detail the marketing margins and costs of marketing eggs from the Midwest to eastern cities during a 4-month special study in 1955 and 1956.

349. CONLOGUE, R. M., and DALLAVALLE, F. MARKETING MARGINS FOR EGGS. U. S. Agr. Mktg. Serv., 8 pp., illus. 1954. (Reprinted from Mktg. and Transportation Situation, Feb. 17, 1954.)

Reports U. S. Agricultural Marketing Service data showing the changes in marketing margins of eggs from 1940 to 1953. Also stated are various reasons for the growth in marketing margins during this selected period.

350. CONLOGUE, R. M., and GRAY, L. R. WHO GETS THE MONEY FOR EGGS? Agricultural Marketing, Agr. Mktg. Serv., U. S. Dept. Agr., 1: 10–11, illus. Nov. 1956.

Describes the movement of 2 truckloads of eggs from Minnesota to an eastern city during May and June 1956. All expenses were calculated and reported in this article.

351. CRAY, R. E. THE EFFICIENCY AND COSTS OF COLLECTING EGGS FROM FARMS IN OHIO. Ohio Agr. Expt. Sta. Res. Bul. 721, 19 pp., illus. June 1952.

Describes and compares the efficiency of assembling eggs from densely and sparsely populated poultry areas by truck routes in 1949 and 1950. Also contains information on the truck costs, labor costs, costs per case and per mile in the collection of eggs at the farm.

352. CRAY, R. E., and CLAYTON, P. C. LABOR EFFICIENCY IN EGG ASSEMBLING AND GRADING PLANTS. Ohio Agr. Expt. Sta. Res. Bul. 773, 36 pp., illus. May 1956.

Discusses specific operations of egg assembling and grading plants as to the cost efficiency and requirement for labor in 9 plants located in Ohio and Indiana during 1948, 1949, and 1950.

353. DAVIS, R. L., JR. MARKETING PROCEDURES AND CHANNELS FOR MISSISSIPPI EGGS. Miss. Agr. Expt. Sta. Tech. Bul. 37, 67 pp., illus. July 1953.

Reports in detail 4 stages of egg marketing movements showing the price spread between 280 producers, 105 first buyers, 76 secondary buyers, and 147 retail grocery stores. Contains 140 tables describing all phases related to the marketing movements, distribution of quantity produced, handled, candled, cartoned, and sold by each dealer during 1949 and 1950.

354. JACKSON, H., and LAW, J. A. MARKETING EGGS AT THE FIRST BUYER LEVEL IN NINE SOUTHERN STATES. Southern Cooperative Series Bul. 18, 16 pp., illus. Dec. 1951. (Agr. Expt. Stas. of Ala., Ark., Ga., La., Miss., Va., S. C., Tenn., Tex., and Bur. Agr. Econ., U. S. Dept. Agr., cooperating.)

Describes the procurement of eggs, outlets used by first buyers in selling local eggs, how eggs were purchased (graded or ungraded), egg handling methods used, and prices paid and received for the eggs handled in 1948.

355. JOHNSON, E. O. EGG HANDLING COSTS ANALYSIS BY LARGE MIDWESTERN PLANT. American Egg and Poultry Rev., 10: 83–84, illus. Feb. 1949.

An address giving an analysis of the 1948 marketing charges of a large Midwest cooperative plant. The total operating cost is broken down into several cost elements.

356. MORTENSON, W. P. EGG MARKETING MARGINS TOO WIDE? Successful Farming, 49: 26 ff. Mar. 1951.

Relates the movement costs for Wisconsin eggs from farms to eastern consumers in 1950. Also gives reasons for the marketing margin and measures to reduce it.

357. MORTENSON, W. P. and GRAF, T. F. MARKETING EGGS IN THE LAKE STATES. Wis. Agr. Expt. Sta. Res. Bul. 168, 31 pp., illus. July 1950.

Describes the various methods of marketing eggs from farms, operating techniques of Wisconsin egg handlers and marketing margins of the central assembler, eastern broker, eastern wholesaler—jobber, and the eastern retailer during 1948.

358. MORTENSON, W. P., and GRAF, T. F. MARKETING MARGINS ON ONE SHIPMENT OF WISCONSIN EGGS TO AN EASTERN CITY. Bur. Agr. Econ., U. S. Dept. Agr., 12 pp., illus. 1950.

Reports the entire cost of marketing one shipment of eggs in 1947 and 1948. Also shows the principal services performed by each of the 6 handlers and the major costs of these services. The 6 handlers mentioned are: producers, assemblers, wholesale receivers, wholesale jobbers, retail stores, and consumers.

359. MORTENSON, W. P., and GRAF, T. F. MARKETING EGGS IN A SOUTHERN CITY. Univ. Wis., Dept. Agr. Econ., 19 pp., illus. 1951.

Reports in detail the various marketing costs of shipping eggs to a southern city, the consumer dollar breakdown, and marketing margins for 13 different weeks during 1949. Also states the results from a sample shipment study during the week of December 9 to December 15, 1949.

360. MCMANUS, R. C. THE DOLLARS YOU DIDN'T GET FOR EGGS. Farm Jour., 72: 23–25, illus. Nov. 1948.

Describes in detail the marketing of Indiana eggs in New York City including a breakdown into 12 different costs, the farm-to-retail marketing margin per dozen eggs sold in 1948.

361. NYBROTEN, N. MARKETING EGGS IN RETAIL STORES OF THE NORTHEAST, 1949. W. Va. Agr. Expt. Sta. Bul. 353, N.E. Reg. Pub. 7, 39 pp., illus. June 1952.

Covers the quality and size of eggs bought and sold, gross margins per dozen eggs for independent and chainstore retailers, gross margins on the different sizes of eggs, and some of the marketing functions and practices of the retailers in the Northeast. Also stated are the types of suppliers and kind of deliveries made during the period studied.

362. PEARL, E. C. WHAT DOES IT COST TO CARTON EGGS? Discussion presented at the 1951 NEPPCO Business Management Conference. Amer. Egg & Poultry Rev. 12: 34–36, illus. Sept. 1951.

A report on the various costs that are involved in cartoning eggs as of 1951. Discusses overhead, labor, cartons, yield of Grade A eggs per case, and average recovery from undergrades.

363. SMITH, H. D., and HAWES, R. C. RETAIL PRACTICES AND EGG QUALITY IN BALTIMORE, MARYLAND. Md. Agr. Expt. Sta. Bul. 456, 16 pp., illus. Feb. 1956.

Describes the handling practices in use under different types of retail store ownerships in 1952, the quality and condition of eggs bought, compared with the quality and condition of eggs sold, the retail price margins from 204 stores, and the effect of holding time in the store on egg quality. These data also show a trend in handling practices from 1946 to 1952.

POULTRY

364. ABBOTT, J. C. THE ECONOMIC IMPLICATIONS OF RECENT TECHNICAL DEVELOPMENTS IN THE PROCESSING OF TURKEYS. Div. of Agr. Sciences, Calif. Expt. Sta.

Mimeo. Rpt. 172, 99 pp., illus. Oct. 1954.
Compares the cost per pound or per turkey of the subscalding and semiscalding operations in various California processing plants. Some of the costs stated were labor, heat, power, water, ice, and packaging supplies as variable costs and equipment, plant, and administrative expenses as fixed costs. Also reported were the most efficient combination of labor and equipment used under the different conditions of plant size, technical procedure, and length of season operated during 1953.

365. Fisher, C. M. STUDIES IN TURKEY MARKETING IN THE WESTERN STATES. Utah Agr. Expt. Sta. Special Rpt. 6. Western Regional Res. Pub., 16 pp., illus. May 1952. (Agr. Expt. Stas. of Calif., Oregon, Wash., and Prod. Mktg. Adm., U. S. Dept. Agr., cooperating.)
Covers railroad rates in 1951 on dressed turkeys from a number of surplus turkey producing States to four large eastern cities.

366. Gerald, J. O. FARM-TO-RETAIL MARGINS FOR MARKETING WESTERN TURKEYS. Bur. Agr. Econ., U. S. Dept. Agr., Agr. Info. Bul. 5, 12 pp., illus. Dec. 1949.
A detailed report in 1948 on marketing costs of turkeys, including shipping expenses.

367. Gerald, J. O., and Kahle, H. S. MARKETING GEORGIA BROILERS THROUGH COMMERCIAL PROCESSING PLANTS. Agr. Mktg. Serv., U. S. Dept. Agr. Mktg. Res. Rpt. 83, 53 pp., illus. Mar. 1955.
Describes briefly the Georgia broiler production and processing growth from 1934 to 1953 and labor requirements for processing plants of various sizes in 1952. Reports the cost of labor per bird for time utilized and for time not utilized in 19 Georgia processing lines.

368. Hartley, M. L. FARM-THROUGH-RETAIL MARGINS FOR NEVADA TURKEYS. Nevada Agr. Expt. Sta., 7 pp., illus. Oct. 1952. (In cooperation with Bur. Agr. Econ., U. S. Dept. Agr.)
Reports the price spreads and margins during 1949 on Nevada and other Western State turkeys marketed locally, in San Francisco, New York, and Chicago.

369. King, R. A., and Zwick, C. J. COMPARATIVE POSITION OF THE CONNECTICUT POULTRY INDUSTRY 5. The Economic Advantage of Location in Marketing Live Poultry. Storrs Agr. Expt. Sta. Bul. 293, 30 pp., illus. Sept. 1952. (In cooperation with Bur. Agr. Econ., U. S. Dept. Agr.)
Describes the Connecticut marketing structure, shrinkage loss, labor costs, and truck costs from various distances in the procurement and delivery of live poultry in 1950.

370. Priebe, E. W., Jr. COST OF FEEDING PLUS COST OF SHRINKAGE IS MAJOR ITEM IN PROCESSING COSTS. U. S. Egg and Poultry Mag., 54: 7–9, illus. Feb. 1948.
Reports the amount of poultry shrinkage in four plants in Kansas, Iowa, and South Dakota before slaughter and why feeding at the plant provides increased dressing percentage and profit per bird in 1948.

371. Rinear, E. H. MARKETING MARGINS FOR TURKEYS. U. S. Agr. Mktg. Serv. AMS–119, 4 pp., illus. (Reprinted from The Mktg. and Transportation Situation, April 26, 1956.)
Covers a study on marketing margins in Washington, D. C., during November and December of 1954, contains data on ready-to-cook and New York dressed turkeys, and shows a breakdown of all the marketing costs involved from the producer in California, Minnesota, and Maryland-Virginia area to the consumer in Washington, D. C.

372. Rogers, G. B. OPS FINDS WIDE VARIATIONS IN COSTS. Inst. Amer. Poultry Indus. Fact Finding Conf. Proc., pp. 99–104, illus. 1953.
Reports the variation in processing costs during 1950 and 1951 on broilers and turkeys, New York dressed, straight-line rough drawn, straight-line eviscerated, and straight-line cut-up. Also given according to the kind of pack, Eastern ice-pack, Midwest ice-pack, Midwest dry-pack, and frozen.

373. Scanlan, J. J. and Eastwood, R. A. OPERATING COSTS OF 15 COOPERATIVE POULTRY DRESSING PLANTS. Farmer Coop. Serv., Bul. 4, U. S. Dept. Agr., 71 pp., illus. Apr. 1954.
Discusses the factors that affect costs and cost variations among 15 cooperative processing plants located in 8 eastern States. Provides a detailed report on the processing costs of New York dressed and eviscerated chickens and turkeys for the period of May 1947 to May 1948.

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Covers the marketing costs and profits of marketing dressed chickens by 184 New York producers from July 1, 1946 to June 30, 1947. Tables show the expenses of the producer, and costs of processing and selling dressed poultry to stores, institutions, and consumers as compared with selling live poultry to live poultry dealers and consumers.

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